What makes people engage in contact? The importance of perceptions, norms and context

Agatha Mélina Ariane Bataille

100291470

School of Psychology Psychology

University of East Anglia

A thesis presented for the degree of

Doctor of Philosophy

June 2023

Under the supervision of

Dr. Charles Seger and Dr. Daniel Rovenpor

© This copy of the thesis has been supplied on condition that anyone who consults it is understood to recognise that its copyright rests with the author and that use of any information derived therefrom must be in accordance with the current UK Copyright Law. In addition, any quotation or extract must include full attribution.

Declaration

The research for this thesis was conducted while the author was a full-time postgraduate student in the School of Psychology at the University of East Anglia, Norwich (October 2019 – June 2023) on a studentship from the University of East Anglia.

The author has not been awarded a degree by this university or any other university for the work included in this thesis. The theoretical and empirical work herein is independent work and confirms that this work fully acknowledges opinions, ideas and contributions from the work of others.

Acknowledgement

My first appreciation goes to my primary supervisor Dr Charles Seger. Thank you, Charli, this endeavour would not have been possible without you and your endless support. You have believed in me from the beginning and our many talks have not only helped me succeed in this project, but they have also helped me grow as a researcher.

My second appreciation goes to Dr Lisa Alston. You have been such a great friend over the last few years, taking me under your wing. I am endlessly grateful for our conversations and for your endless support and patience.

I am also thankful to my second supervisor Dr Benjamin Locke Wellborn and Dr Daniel Rovenpor, for their insightful feedback on my work. I would like to extend my sincere thanks to the Social Cognition Lab group members at UEA and Dr Sofia Stathi for the time they have taken to hear my work and provide helpful feedback. And to Dr Erin Buchanan for her unwavering dedication to providing open-source advanced statistical method content and to Dr Daniel J. Bauer and Dr Patrick J. Curran for their work in making Structural Equation Modelling accessible and fun.

Thank you also to my fellow PGR for their support, particularly my Friends Bea, Emma, Delyth, Prerna, Alice and all the Pippin Green gang. I would, in particular, like to thank Alice, Gozdem, Greta and Laura, who started this adventure at the same time as me.

Lastly, I would like to mention my family, who has been of great moral support for the past four years. You taught me to be independent and work for what I want, and I am extremely grateful for this. I would not have started this adventure if it wasn't for your support.

Abstract

Intergroup contact reduces prejudice in a wide variety of contexts. However, cross-group interactions are often missed or actively avoided, even when conditions are favourable. Understanding when and why people choose to engage in intergroup contact has become essential to promote its benefits. Across six studies, this thesis explores the impact of three main factors (i.e., meta-perception, perception of the outgroup and contact norms) on intergroup contact engagement in two distinct contexts. The first part of this thesis critically reviews the literature on the subject.

The second part (Chapter 2) uses scenario methodology to explore people's beliefs regarding intergroup contact. Findings reveal that people believe self meta-perception and feelings of similarity to be the most important factors regarding intergroup contact engagement.

The third part (Chapter 3 and Chapter 4) tested the Perception-norm model whereby meta-perception and perception of the outgroup indirectly predict intergroup contact engagement by informing people's perception of the intergroup normative context (in political and racial contexts in the U.S.). We argue that if an individual holds positive meta-perceptions and perceptions of the outgroup (measured on competence, warmth, morality, and positivity), the more they will perceive positive normative support for intergroup contact. This, in turn, will lead to an increased desire to interact with the outgroup. Three studies partially support our model using structural equation modelling and reveal that these effects depend on the intergroup context. Finally, two additional studies using experimental manipulations of perceptions and an actual contact opportunity provide further evidence of the effect of meta-perceptions, perception of the outgroup and contact norms on contact, and the importance of considering the intergroup context.

Abstract

Overall, this thesis highlights the role of perceptions, norms and the intergroup context in intergroup contact engagement and provides theoretical knowledge to design target-specific interventions.

Keywords: Intergroup contact engagement, meta-perceptions, norms, context.

Access Condition and Agreement

Each deposit in UEA Digital Repository is protected by copyright and other intellectual property rights, and duplication or sale of all or part of any of the Data Collections is not permitted, except that material may be duplicated by you for your research use or for educational purposes in electronic or print form. You must obtain permission from the copyright holder, usually the author, for any other use. Exceptions only apply where a deposit may be explicitly provided under a stated licence, such as a Creative Commons licence or Open Government licence.

Electronic or print copies may not be offered, whether for sale or otherwise to anyone, unless explicitly stated under a Creative Commons or Open Government license. Unauthorised reproduction, editing or reformatting for resale purposes is explicitly prohibited (except where approved by the copyright holder themselves) and UEA reserves the right to take immediate ‘take down’ action on behalf of the copyright and/or rights holder if this Access condition of the UEA Digital Repository is breached. Any material in this database has been supplied on the understanding that it is copyright material and that no quotation from the material may be published without proper acknowledgement.

Contents

List of Tables

List of Figures

Part 1

Theoretical background

Context

Civilized men have gained notable mastery over energy, matter, and inanimate generally and are rapidly learning to control physical suffering and premature death. But, by contrast, we appear to be living in Stone Age so far as our handling of human relationships is concerned.

Allport et al. (1954)

Human beings are, by essence, social beings. They live with and depend on others. Our social environment, including family, friends, and group memberships, provides meaning and stability for us, with social interactions and relationships "an essential and central part of human nature" (Argyle, 2017, p.13). From childhood, we learn how to interact with ingroup and outgroup members; as a collective, these group-level relationships form much of the fabric of society. Most contemporary social issues are related to the disruption of interaction, communication, and cooperation between groups (Argyle, 2017). Much of human history is the story of intergroup conflict, from Antiquity to today's armed conflicts or discrimination, racism, and homophobia that persist even in liberal democracies; examples are not missing to demonstrate this vast history of intergroup conflict.

Several prominent examples of prejudice and its effects have resulted in national and international outcry over the last few years. The killing of George Floyd, an unarmed Black man, during his arrest by White officer Derek Chauvin in Minneapolis in May 2020 sparked widespread protests against racism and police brutality in the U.S. and worldwide ("Who was George Floyd and what happened to Derek Chauvin?", 2021). These protests reignited the Black Lives Matter movement, created in 2013 ("The death of George Floyd and the Black Lives Matter movement",

2022), which has opened discussion on systemic racism in the U.S. but has also sparked a considerable backlash from some on the political right.

Whilst many Americans (and others) would like to believe that arc of justice and tolerance has been steadily and inexorably bending towards an equal society, racism is still deeply rooted in (even liberal) societies. It affects every aspect of Black Americans' lives. Not only are they the first victims of hate crime and police brutality ("Police shootings database 2015-2023: Search by race, age, department", 2022), but they also face discrimination at work and in the health care system ("Racism, Inequality, and Health Care for African Americans", n.d.).

The recent protests and talks calling for systemic changes, such as police reform and the dismantling of institutionalised racism, have been hindered by the All Lives Matter movement and counter-protests. The latter suggests that all lives are equally at risk and ignores the disproportionate impact of systemic racism on Black people("Who was George Floyd and what happened to Derek Chauvin?", 2021)). Indeed, a substantial minority of White Americans believe that Whites are getting the 'raw end of the deal' in race relations (Breslin, 2021). Indeed, evidence also supports the idea that "preference for All Lives Matter over Black Lives Matter is indicative of both implicit racism and ideological stances that minimise or discourage the recognition of contemporary forms of racial discrimination [... And] thereby (ironically) perpetuate racism" (West et al., 2021, p.1147)

The above example illustrates the persistence of racism and racial tension as a daily reality in the U.S. It has been argued that racial tensions in America have worsened recently. Studies demonstrate an increase in prejudice expression following Obama's election (Newman et al., 2021) as a reactance effect to the politic and policies in place at the time. These pieces of evidence are reinforced by recent polls and studies showing how perceptions between Blacks and Whites have sunk to a new low, as well as the question of race equity getting worse after Trump's election, revealing that tension and inequalities are still a problem between the two groups

(Ross, 2016) and that the arc of justice and tolerance is not steadily and inexorably bending towards an equal society, or is, at least, still far from it (Horowitz et al., 2019; Saad, 2020).

Another example of recent, ongoing conflict is political conflict rising worldwide, as shown by increased polarisation, tension, and protest. Headlines demonstrate this rise of political unrest. Recent protests against the pension scheme law in France opposed Macron's government to thousands of citizens. The Brexit vote in the Uk brought its set of tension as shown by the protest and heated debate organised by both sides (i.e., leave vs remain, Institute for Economics and Peace, 2022) suggests that the rise in violent demonstrations is linked to group polarisation and increased critical views on administrative structure along reduced tolerance for opposing opinions.

This can be illustrated by the recent event around the 2020 U.S. presidential election (e.g., protest for vote recount). Democrats and Republicans have recently indicated perceiving an increase in conflicts between their groups, especially after the last two presidential elections. An effect translated by both political groups (increase in) negative views about each other and their overestimation of the polarisation of opposite party members (Lees, 2021). Studies have demonstrated that both political parties' negative views of each other tend to fuel their overestimation of the out-party polarisation (e.g., policy extremity) but also have biased ideas of who are out-party members (e.g., overestimation of the number of Black Democrats, Lees & Cikara, 2020).

Evidence also demonstrates informal segregation between political party members. Recent studies have found that members of both parties tend to live in separate areas with limited exposure to the out-party members (Brown & Enos, 2021; Pazzanese, 2021). Increased negative views and polarisation translated in recent conflicts such as the protest over the last election and the event of the Capitol in January 2021 ("Capitol riots timeline: What happened on 6 January 2021?", 2022)

or protest against Covid-19 policies, depending on partisan control over the state governance (Pfaff et al., 2023).

When ethnically-motivated hate crimes and political instability are on the rise, intergroup tensions are dominating the headlines. Understanding how to ease said tension is a pressing challenge. Researchers in social science have tried to understand the roots of this intergroup conflict and develop solutions to improve intergroup relationships. One of the proposed solutions is intergroup contact. According to Allport et al. (1954) and supported by hundreds of studies ever since, intergroup contact is one of the best ways to reduce intergroup prejudice and improve social cohesion. Direct and indirect intergroup contact have demonstrated their effectiveness for various groups and in multiple contexts (Banas et al., 2020; Lemmer et al., 2015; Paluck et al., 2019; Pettigrew & Tropp, 2006; Zhou et al., 2019).

After decades of investigation, many factors influencing how and when intergroup contact effects happen have been identified, including individual differences (e.g., RWA, SDO; Turner et al., 2020), intergroup emotions (e.g., anxiety; Stephan & Stephan, 1985), laws and norms (Allport et al., 1954; Wright et al., 1997); revealing the complexity of this effect. However, recent criticism and reviews on intergroup contact have highlighted the limited impact of contact in everyday life, showing a general lack of engagement and sometimes active avoidance of available (direct and indirect) contact opportunities. Less interest has been given to the predictors of intergroup contact engagement. Understanding when why and how people engage (or not) in intergroup contact is essential to increase its everyday life impact/to crease intervention promoting positive intergroup contact.

Further criticism of the intergroup contact theory also highlights the single-factor fallacy and studies failing to capture the phenomenon's complexity. Indeed, most studies do not provide the broader picture and focus on one predictor with little consideration for other important factors and the context in which they are applied. This thesis is guided by intergroup contact theory yet considers criticism as

it focuses on three predictors of intergroup contact engagement: meta-perception, perception of the outgroup and contact norm in two intergroup contexts.

Overview of the thesis

Robust evidence supports intergroup contact as a solution to improve conflictual intergroup relations. It can reduce prejudice in a wide variety of settings and has secondary effects such as enhancing cross-group face recognition (Meissner & Brigham, 2001), increasing engagement in collective action (Hässler et al., 2020b), or even improving general cognitive abilities (Hodson et al., 2018). However, while intergroup contact research has regularly examined intergroup contact mechanisms and outcomes, less interest has been given to its predictors, bringing questions such as: under which conditions do people engage or not in intergroup contact? Yet, understanding when, why and how people engage in intergroup contact is essential to maximise its everyday impact (outside the lab) and enjoy positive intergroup contact benefits such as prejudice reduction and engagement in collective action.

This thesis anchors itself in a new research trend that explores intergroup contact predictors. In this first part, we will critically review the limits of intergroup contact by discussing research on intergroup contact engagement. Chapter 1 will synthesise existing research on intergroup contact and examine intergroup contact engagement and avoidance predictors. In particular, we will focus on meta-perception (i.e., belief about how outgroup members perceive the self or the ingroup), perception of the outgroup (i.e., belief about outgroup members), and social norms (i.e., intergroup behaviour supported by the ingroup or the outgroup). Finally, we will discuss the impact of context on intergroup contact and its predictors. This first part forms the theoretical basis for the work presented in this thesis. It concludes that perceptions (i.e., self and group meta-perception, perception of the outgroup) and contact norms (ingroup and outgroup) are reliable predictors of intergroup contact engagement.

Yet, the studies reviewed here often fail to provide the broader picture and are often illustrative of the single-factor fallacy (i.e., focus on one main predictor or omission of other essential predictors). Consequently, evidence is lacking regarding the relationship between or potential combined effects of those predictors despite research suggesting they might be related (Vauclair et al., 2016). Further, while the impact of various aspects of the intergroup context (e.g., group type, status and history or the broader socio-cultural context) on intergroup contact has been demonstrated, the existing evidence fails to account for the effect of said context on those predictors. This thesis aims to answer some of these limits by exploring the (combined) impact of perception and norms on intergroup contact engagement in two distinct contexts (a- political; b- racial) in the U.S.

The second part of this thesis presents an explorative study investigating people's naïve beliefs regarding predictors of intergroup contact engagement. Understanding people's perspectives on predictors of intergroup contact engagement is essential to understand the effect of those predictors and designing effective interventions. Overall, studies on people's definition of intergroup contact and conception of intergroup contact engagement are lacking (Keil & Koschate, 2020). Further, the existing studies reveal a gap between laypeople's and researchers' definitions (e.g., laypeople underlook the potential of online or negative contact and include them less in their definition of contact).

Building on these observations, this first study investigates people's perceptions of 11 predictors identified in the literature (see Table 2 for a list and description) and their impact on fictional characters' engagement in or avoidance of intergroup contact. Using scenarios presenting contact situations (i.e., engagement vs avoidance; direct vs indirect; ingroup vs cross-group) this first study, thus, provides insight into people's conception of intergroup contact engagement and ability to reflect on said engagement. Interestingly, our results revealed that self but not group meta-perception, followed by feelings of similarity, was perceived as the most

important factor influencing one's intergroup contact engagement. Even more interesting, perception of the outgroup was evaluated as the least important factor in all scenarios. Overall, these results further support the role of meta-perception in intergroup contact engagement.

The third part of this thesis, composed of Chapters 3 and 4, focuses on the relationship between and combined effects of meta-perceptions, perception of the outgroup and contact norms on intergroup contact engagement in two contexts (a- political, b- racial) in the U.S.

Using structural equation modelling, a technique allowing us to model complex relations between theoretical concepts, Chapter 3 explores the direct and combined serial effect of meta-perception, perception of the outgroup and contact norms on intergroup contact engagement. More precisely, in three studies, we test the Perception-norm model in which we posit that one's perceptions (self and group meta-perception -> perception of the outgroup) will inform their perception of (ingroup and outgroup) contact norms which will, in turn, influence their desire to engage in intergroup contact. We further posit that this will differ depending on the intergroup context in which people are immersed. Studies 1 and 2 test the Perception-norm model using data from Democrats and Republicans (1- before; 2- after the 2020 U.S. Presidential election). Study 3, on the other hand, focuses on the U.S. racial context and tests our Perception-norm model using data from Black and White people in the U.S. Results show that the combined indirect effect of meta-perception, perception of the outgroup, or contact norms on intergroup contact engagement depend on the intergroup context.

Chapter 4 extends those results by providing experimental evidence of the effect of meta-perception, perception of the outgroup and contact norms on actual (vs intentional) contact engagement. First, we use fake tweet threads to manipulate perceptions (i.e., positive, negative or control meta-perception and perception of the outgroup). Then we analysed the impact of context, perception and contact

norms on actual and intentional contact engagement. The results revealed that the manipulation (i.e., the valence of perceptions) alongside self-reported perceptions predicts intentional and actual contact engagement, an effect, once again, dependent on the intergroup context (i.e., political vs racial context in the U.S.).

The final part of this thesis provides a summary and discussion of the work presented so far. It starts with an overview of the background and aims of this thesis and the empirical findings. It then discusses this thesis' theoretical and practical implications and limitations. It considers, in particular, the theoretical implication that contact engagement may vary as a function of the intergroup context and the role perception and contact norms played in the two contexts we have explored. The thesis concludes with a program for future research that explores in detail the multiple dimensions of these predictors and their impact in various intergroup contexts to create context-specific interventions.

Chapter 1

Literature review

The following chapter provides the theoretical basis for the work presented in this thesis. First, we will give some background to the present work by defining intergroup contact and synthesising research on intergroup contact outcomes and underlying mechanisms. After this brief review, we will discuss an important factor limiting intergroup contact's effectiveness: lack of engagement in or avoidance of intergroup contact. After providing some definition of said lack of engagement, we will discuss the role of three predictors of contact engagement (meta-perception, perception of the outgroup and contact norms) and the importance of taking the intergroup context into account. The last section will provide a summary of this literature review and present the aims of this thesis.

Intergroup contact as a solution for intergroup tension

Studies about the effect and benefits of intergroup contact go back almost a century (e.g., Watson, 1947). Still, it was only after Allport et al. (1954) seminal work in which he gathered those initial investigations under the intergroup contact hypothesis that the now quite developed intergroup contact theory emerged (Pettigrew & Tropp, 2008). Under this theory, positive intergroup contact holds the possibility to reduce prejudice and enhance social cohesion, an effect that is expanded by four optimal conditions (i.e., 1. Cooperation between groups; 2. Equal status within the contact situation; 3. A shared goals; 4. Support of authorities) (Allport et al., 1954).

This contact effect has captivated researchers, with about a quarter of the

intergroup relations literature focusing on this topic (during the last two decades; Kauff et al., 2020; Paluck et al., 2019; Paolini et al., 2021). Hundreds of investigations now demonstrate the robustness of this effect in the lab (mean r = -.21, Pettigrew & Tropp, 2006) and in the field (Lemmer et al., 2015), using several methodological paradigms including Social Network Analysis (Wölfer & Hewstone, 2017); Videos (Cooley & Burkholder, 2011); Trust games (Vermue, 2019); and design (e.g., correlational, longitudinal and experimental; Banas et al., 2020; Binder et al., 2009; Lemmer et al., 2015; Paluck et al., 2019; Pettigrew & Tropp, 2006; Zhou et al., 2019).

Additionally, intergroup contact benefits have been demonstrated worldwide (e.g., U.S. Wright et al., 1997; Italy and UK, Vezzali et al., 2015a; China, Wang et al., 2019, etc.) among many intergroup contexts (e.g., disabled, Carew et al., 2019; sexual orientation, Schiappa et al., 2005; ethnicity, Visintin et al., 2017; partisanship, Crandall et al., 2018) and climate (conflict, post-conflict, peace;such as between Catholics and Protestants in Northern Ireland, Paolini et al., 2004; or between Cypriots and Greeks, Husnu et al., 2018).

However, recent evidence suggests a lack of within-person change (Friehs et al., 2022; Hodson & Meleady, 2023; Sengupta et al., 2023), and scholars advocate that the reduction in prejudice and other outcomes observed would be more reflective of pre-existing person difference (e.g., social dominance orientation level Hodson & Meleady, 2023). In other words, this new evidence suggests that the intergroup contact effects might be more reflective of the tendency of certain people (e.g., less prejudiced) to engage in contact than of contact itself. Yet, they do not provide evidence regarding the role of contact in shifting norms and long-term systemic rather than individual change which have been demonstrated to be an efficient social change marker (Tankard & Paluck, 2016). In other words, it does not account for the societal rather than individual long-term effects. The bias of the crowds model explains how implicit measures can be broadly predictive across a population even

though individual-level reliability is low; perhaps a similar effect exists for intergroup contact (B. Keith Payne & Lundberg, 2017). Further, few studies account for this new finding, compared to decades of studies exploring this effect in real life and forced lab settings. It is thus hard to understand the full implication of such findings.

Overall, the intergroup contact effect is a phenomenon supported by decades of research, and the literature on the subject has motivated and guided intervention programs (e.g., evaluation of the effect of intergroup meetings between Palestinian and Israeli students addressing social issues, Yablon, 2012; Paluck, 2009, explores the impacts of contact through radio, see Paluck et al., 2019, for a review) and integration policies worldwide (e.g., as a guide to promote policies about peacebuilding, see Paluck et al., 2019, for a review).

In summary, the long-term within-person effects of intergroup contact are now subject to debate. This brings an important reflection on the intergroup contact literature and how research is conducted. A full account of the debate and its consequences is beyond the scope of this work. However, even if intergroup contact was not the magical solution advertised by researchers over the past decades, it still presents interesting evidence, especially on the link between prejudice, social change, and between-person differences, suggesting further exploration of the factors behind engagement (i.e., who engages in intergroup contact and why). Finally, given the newness of the debate, we believe it is still important to discuss what has been considered intergroup contact so far and what its effects are.

What is contact?

The following part will define intergroup contact and review the literature on the different forms contact can take and the difference between positive and negative intergroup contact.

Definition and forms of contact.

Traditionally, intergroup contact refers to positive direct intergroup contact, conceptualised as a positive face-to-face interaction between members of two different groups as opposed to "indirect" or negative intergroup interactions. Direct contact has been described as the gold standard, and other forms as a way to facilitate it. For instance, Yablon (2012) demonstrates that recurring face-to-face encounters with outgroup members improve Jewish and Arab students' social relations (i.e., social distance, feelings and perception of the outgroup). Similarly, using self-reported questionnaire data, Barlow et al. (2012) demonstrates that direct (i.e., positive and negative) contact quantity predicts racism and avoidance (i.e., respectively reduced and increased). Evidence also indicates that indirect contact forms (e.g., extended contact) predict future contact expectancy and direct cross-group friendship (Gómez et al., 2011; Mazziotta et al., 2015). Overall, studies on direct intergroup contact show promising results in various settings (Pettigrew & Tropp, 2006).

However, recent studies demonstrate that *indirect* forms of contact are more than a means to overcome the limitation of or facilitate direct contact. They have their characteristics and specific benefits (Harwood, 2021). The indirect form of contact can vary from simple alternatives to direct contact (e-contact: "computer-mediated contact involving an engagement of self in the intergroup relationship" White & Abu-Rayya, 2012, p.598, e.g., text-based or video chat) to even more indirect forms such as observation of (close) others having a (positive) relationship with outgroup members (extended contact; Wright et al., 1997, p.74), mere observation or exposition to the outgroup (vicarious or mediated contact; Vezzali et al., 2019, possibly via media, e.g. movies) or imagination (imagined contact: "the mental simulation of a social interaction with a member or members of an outgroup category" Crisp & Turner, 2009, p.234). For example, Schiappa et al. (2005) conducted two studies in which straight participants' level of prejudice toward gay men was

reduced after watching episodes of TV shows featuring gay characters.

It should be noted that while intergroup contact is mainly described as direct or indirect, this taxonomy has some limits, and others have been proposed. For instance, White et al. (2020) offered to distinguish contact opportunities based on two dimensions: 1) the medium of contact (e.g., direct interaction with outgroup members vs through another person, a medium, or the self); 2) active vs passive interaction. Harwood (2010), on the other hand, proposed placing contact at the intersection of the self-involvement (i.e., characteristic of the situation) and richness continuum (i.e., number of cues and channels available in a given communication context). Here, the degree of self-involvement varies as a function of the contact form (e.g., direct contact requires more self-involvement than vicarious contact). At the same time, richness depends on the situation and the level and type of information it implies (e.g., direct contact is a multi-sensory and immediate experience of the outgroup member while e-contact provides less information, e.g., reduces the feeling of the presence of the other).

Overall, intergroup contact can take different forms and definitions. For example, laypeople's and scholars' conceptions of contact differ (e.g., laypeople's definitions focus mainly on direct positive contact and under consider its negative or online aspects). Further, the question of volition or whether people are free to interact is also essential. This thesis defines contact as freely chosen (in opposition to forced) meaningful interactions where someone from a specific group engages with an outgroup member (Bagci et al., 2020a). This interaction can be direct (e.g., face-to-face discussion) or indirect (e.g., cross-group friendship or exposition through the media). Finally, we consider that some knowledge of the other person's group membership is needed for it to be regarded as intergroup contact. Past research has shown that group membership salience is needed for intergroup contact effects to transfer from the individual to the group (Brown et al., 1999). For example, suppose someone (e.g., a Democrat) has a positive interaction with another individual but is

ignorant of this person's group membership (e.g., political affiliation such as Republican). In that case, it cannot be considered a positive intergroup contact experience between two members of opposite groups as they ignore being of different groups.

A point on intergroup contact valence..

For a long time, research focused on positive cross-group interactions to the extent that intergroup contact almost becomes a synonym of positive intergroup contact - but not all encounters are positive in everyday life. Consider a woman listening to a sexist joke made by a man. A person of colour asked where they are from while living in a country with a White majority, regardless of their citizenship. An overweight person being selected last at sports by another (skinnier) player. Discrimination and micro-aggression are part of everyday life for many people and illustrate the existence of negative contact. Despite early evidence of the effect of negative contact, it is mainly over the past decade that research has focused on differentiating the impact of positive and negative contact.

In their influential work, Barlow et al. (2012) proposed that positive and negative contact are two independent and simultaneous constructs whose effect can be asymmetric. In line with this theory, some studies show that the prejudice-increasing effect of negative contact outweighs the prejudice-reduction effect of positive contact. For instance, negative contact, while less frequent than positive contact, was found to be a stronger predictor of attitudes toward outgroup members (e.g., members of the neighbouring countries), especially when the negativity was associated with the outgroup member rather than the general situation (e.g., bad atmosphere or weather, Graf et al., 2014). However, this stronger effect of negative contact is subject to a heated debate, as some studies support the opposite claim. For instance, positive contact was a stronger predictor of attitudes and the secondary transfer effect (i.e., transfer of attitudes to other groups) than negative contact (Brylka et al., 2016). While the debate is still ongoing and the existence of and reason behind

such asymmetry needs further evidence/exploration, these studies still suggest that intergroup contact valence moderates its effect (Aberson, 2015; Graf et al., 2014; Hayward et al., 2017).

What are the effects of contact?

As we have seen, decades of research support the intergroup contact effect, but what can it do? The following part provides a summary of the different outcomes of intergroup contact.

Intergroup contact influences multiple aspects of intergroup relations, such as prejudice (for a review see: Banas et al., 2020; Lemmer et al., 2015; Paluck et al., 2019; Pettigrew & Tropp, 2006; Zhou et al., 2019), support for social change (e.g., support for policies, Alston et al., 2022; vote intentions, Meleady et al., 2017; general engagement in collective actions, Hässler et al., 2020b), attitude and emotion toward the outgroup (e.g., humanization of the outgroup, Capozza et al., 2017) or even face recognition (Meissner & Brigham, 2001).

Prejudice.

Over the years, multiple reviews and meta-analyses were published illustrating the relationship between positive contact and prejudice reduction across various cultures and intergroup context (e.g., Carew et al., 2019; Crandall et al., 2018; Husnu et al., 2018; Paolini et al., 2004; Schiappa et al., 2005; Vezzali et al., 2015a; Visintin et al., 2017; Wang et al., 2019; Wright et al., 1997), when considering different forms of contact and paradigm (e.g. Mediated contact, see Banas et al., 2020, for a review), or as practical interventions to guide policy making (Paluck et al., 2019).

Support for social change.

Researchers in intergroup contact have demonstrated its effect on social change, including through support for policies and voting intention (e.g., sharing content on

social media, support for policies, raising peer awareness of inequality). For instance, contact with Chinese people predicted support for restriction policies during the COVID-19 pandemic, an effect mediated by fear and anger (Alston et al., 2022). Similarly, a study found that negative contact experiences were linked to higher anti-immigrant prejudice, which strongly correlated with support for "Leave" (i.e., vote in favour of Brexit, Meleady et al., 2017).

Collective action. While the examples above present examples of more individualistic support for specific policies, many studies have highlighted the impact intergroup contact can have on both minority-disadvantaged and majority/advantaged group engagement in collective action for social change. Wright and Lubensky (2013) provided extended support for the relationship between collective action and intergroup contact. Selvanathan et al. (2018), for example, demonstrate that positive intergroup contact, mediated by greater positive feelings, and empathy toward the outgroup, along with increasing anger toward injustice, influence White Americans' behavioral engagement in collective action for racial justice and support for the Black Lives Matter movement in three studies. Similarly, a study demonstrated that students recalling positive past experiences of contact with working-class people contributed less to inequality and participated more in collective action for equality (Vázquez et al., 2017). Negative contact, on the other hand, had the opposite effect.

Humanization.

Intergroup contact has also been proven effective for multiple other outcomes. For example, various studies evidence the effect of intergroup contact in humanizing the outgroup. Indeed, positive intergroup contact has been demonstrated to increase trust in and perceived warmth, humanization, or facial recognition of outgroup members (Meissner & Brigham, 2001; Vermue, 2019). Characteristics essential to social interactions and treatment of the outgroup members as individuals vs items of a category. For instance, evidence accounts for the role of positive intergroup contact

in the reduction of the "Cross-race effect" (i.e., CRE) in face recognition. This effect refers to the human tendency to better discriminate and memorize own vs other-race faces. Lots of studies have been conducted and the CRE has revealed itself as a robust phenomenon in different societies and cultures (Bataille & Hajji, 2017; Meissner & Brigham, 2001). Over the years, lots of explanations have been proposed to explain the causes and mechanisms underlying the CRE, and intergroup contact has been identified as one of the major predictors of improved cross-race face recognition along social categorization. That is, the more an individual is in contact with people of another race, the more likely he is to discriminate between the faces of this other race and vice versa, due to higher reliance on individual (vs category) diagnostic information. In 2017, Bataille and Hajji (2017) confirmed Meissner and Brigham (2001) meta-analysis demonstrating a correlational relation between contact and cross-race face recognition improvement.

Transfer effects.

Additionally, this effect of intergroup contact is not limited to outgroup members involved in the contact situation. It can also transfer to other group members as well as to other groups. For example, positive imagined contact intervention leads to positive attitudes toward illegal immigrants (targeted group) but also toward other (similar) groups such as Mexican-Americans or homeless people. This transfer effect happens even with fictional groups (e.g., vicarious contact with Harry Potter fictional characters leads to more positive attitudes toward real-life groups, Vezzali et al., 2015b).

Finally, intergroup contact can also affect general cognition by acting as an agent of cognitive liberalization, a concept known as the tertiary transfer effect (Hodson et al., 2018). The tertiary transfer effects refer to the role of intergroup contact in shaping human cognition by creating or developing a set of skills (e.g., Hodson et al., 2018) transferable to situations outside of intergroup interaction (i.e.,

increased cognitive abilities). According to this theory, intergroup contact will have the ability to influence openness to new experiences, ideologies, creativity, and more. People, following contact and cultural diversity exposure, would develop or improve a set of skills transferable to situations outside intergroup interaction, including problem-solving skills or systematic and complex thinking (Hodson et al., 2018). For example, Meleady et al. (2017) study on imagined contact supports this theory. They demonstrate that imagined contact, not only reduces prejudice but also improves cooperative and pro-social behaviors. Participants in the imagined contact (vs control) conditions made significantly more cooperative choices during the economic prisoner dilemma task.

In sum, intergroup contact can affect multiple aspects of everyday life, from attitudes or individuals' cognitive abilities to intergroup behavior.

How and when does intergroup contact work?

Intergroup contact is a complex phenomenon. As we have seen, it can take many forms and influence multiple aspects of intergroup relations (e.g., attitudes, discrimination behaviour, engagement in collective actions). Scholars in the field have tried to understand how and when intergroup contact works and multiple factors acting at different levels (e.g., individual, group and society) have been identified. The following section provides a summary of some of this work.

How does intergroup contact work?.

Many studies have focused on *how* intergroup contact yields the outcomes we reviewed earlier. They identified multiple mediators of the intergroup contact effect, including the inclusion of the other in the self (IOGS; micro-level, Turner et al., 2008; Vezzali et al., 2019), intergroup emotions (meso level; e.g., anxiety, de Tezanos-Pinto et al., 2010; Pettigrew & Tropp, 2008; empathy, Swart et al., 2011), or social norms (macro level; e.g., ingroup norms, de Tezanos-Pinto et al., 2010;

Dovidio et al., 2017; outgroup norms, Gómez et al., 2011).

Inclusion of the outgroup in the self. The inclusion of the other in the self has been highlighted as a reliable mediator of intergroup contact effect in the realm of prejudice reduction (Turner et al., 2008; Vezzali et al., 2019). Intimate contact or "a close and meaningful relationship or interaction with either an ingroup or outgroup member" that is "likely to involve repeated contact and be characterized by reciprocal self-disclosure and trust" is considered more efficient than casual intergroup contact (Marinucci et al., 2020, p.2). Results indeed suggest that direct and extended cross-group friendships, because they are more intimate, are different and more efficient than other forms of contact (Zhou, 2020). Intimacy effectiveness might be due to or related to the inclusion of the other in the self (IOS, Aron et al., 1992; Zhou, 2020). IOS can be defined as the act of inclusion in the self(-concept) of elements of another identity to the extent that this other becomes a part of the self. The reasoning or logic behind IOS is that close others like ingroup members are spontaneously included in the self and that people involved in a close relationship are perceived as belonging to a single cognitive unit, then direct or indirect (e.g., extended or vicarious contact) intergroup friendly relation experience or observation should bring the outgroup closer to the self (Smith and Henry, 1996; Sedikides and al., 1993 in Vezzali et al., 2019). In the case of intergroup friendship (i.e., direct and extended) this can lead to the inclusion of the outgroup in the self if the other group membership is included in the self (IOGS), leading to an honorary outgroup membership. IOS or IOGS are often defined using schema representing different degrees of overlap between the self and the other or by timing classification of the self as not belonging to the outgroup. Wright et al. (1997), first proposed a model of extended contact including its moderation by IOGS, and presented some correlational and empirical support for it. Later on, multiple studies supported direct or transitive IOGS as a powerful mediator of intergroup contact effect on prejudice (Zhou, 2020). For instance, evidence of IOGS, concurrently with ingroup and outgroup norms and

intergroup anxiety, as a mediator of attitudes of White British toward Southern Asian people, supports Wright et al. (1997) model. Similarly, a demonstration of IOGS mediational role was obtained using vicarious contact (i.e., video of direct contact interaction between ingroup and outgroup members) for both the majority (i.e., Italian) and minority (i.e., immigrants) group (Vezzali et al., 2019).

Emotions. Affective factors (e.g., intergroup emotions) have been identified as mediators of the intergroup contact-prejudice relationship. Affective factors appear to be stronger mediators than cognitive factors (e.g., increased intergroup knowledge) that were the first focus of studies on how the intergroup contact effect occurs (Pettigrew & Tropp, 2008). The mediating role of both positive and negative intergroup emotions has been evidenced. Regarding positive emotions, studies mainly focus on empathy. Empathy refers to the act of "the ability to engage in the cognitive process of adopting another's psychological point of view, and the capacity to experience affective reactions to the observed experience of others" (Davis, 2018). Empathy has been identified as a mediator of the effect of intergroup contact (i.e., direct, extended) for different measures of prejudice (Swart et al., 2011; Visintin et al., 2017) and outcomes (e.g., behavioural intention, Vezzali, 2017). Findings are supported by the results of a meta-analytical review of intergroup contact mediators (Pettigrew & Tropp, 2008). Evidence also accounts for the effect of other positive emotions. Similarly to Empathy, intergroup Trust (Birtel et al., 2018; Visintin et al., 2017), or admiration (Seger et al., 2017) have been identified as strong mediators of the relationship between intergroup contact and prejudice.

Comparably, negative affective factors have been identified. Cottrell and Neuberg (2005) proposed a socio-functional perspective according to which specific intergroup emotions emerge from specific threats to (and opportunities for) group process and structure as well as ingroup resources. Similarly, the intergroup threat theory (Stephan et al., 2015) is a well-developed and supported theory about the mediating effect of threat on the contact-prejudice relationship. Cognitive (e.g., in-

creased likelihood of perceived threat-related emotions like anger), emotional (e.g., feelings of fear and anxiety) or behavioural (e.g., submission or aggressive behaviour) responses to threat have been identified. Induced threat cardiovascular reactivity patterns (i.e., physiological responses), as well as a drop in performance (i.e., behavioural responses), have been demonstrated during interactions with stigmatized as well as with racial or socio-economic outgroups (Blascovich et al., 2001). Additionally, Aberson (2015), in his meta-analysis, has found an average standardized indirect effect of threat on the contact-prejudice relation of -.072, explaining a part but not all of this relationship. Both theories conceptualise the effect of specific threats with intergroup contact and intergroup emotions. Specifically, intergroup contact will influence prejudice level, among other outcomes, through intergroup emotions as a result of perceived threat. One of the most studied responses to threat is intergroup anxiety. It refers to the apprehension that emerges from the feeling of threat during an intergroup encounter. It is related to the fear of being exploited or seen as prejudicial (Stephan & Stephan, 1985). Many studies support the impact of intergroup anxiety on the contact-prejudice relation, whether contact was direct or not (e.g., de Tezanos-Pinto et al., 2010; Pettigrew & Tropp, 2008). Intergroup anxiety, for instance, has been found to negatively correlate with extended contact and positive attitude levels (de Tezanos-Pinto et al., 2010; Swart et al., 2011). Other negative emotions have also been identified. Anger and disgust, two emotions respectively associated with threats to personal or group resources and threats to a person or a group's health, have both been identified as mediators of the intergroup contact-prejudice relation (Seger et al., 2017). Both manifest their effect as a function of the groups concerned following the idea that different groups pose different threats leading to distinct emotional reactions.

Norms. "Social norms are the predominant behaviours, attitudes, beliefs, and codes of conduct of a group. As perceived, they influence the expectations, opinions, and actions of group members and facilitate social coordination and soli-

darity within the group." (Cialdini & Jacobson, 2021). In other words, social norms are the informal rules that guide group members' behaviours. People converge towards norms of their groups and internalise these without trying, more so, the more the group is central to the self-concept. Comparatively to laws and authorities' support, social norms' impact on intergroup contact has been demonstrated. For instance, in four studies using secondary and longitudinal data, Christ et al. (2014) exemplify the mediating role of social norms in the relationship between contextual contact and attitudes. Positive cross-group interaction in a diverse area reduced prejudice beyond the individual's experience of intergroup contact, an effect mediated by more tolerant social norms. In other words, the intergroup contact effect was associated with macro or societal level reduction of prejudice rather than simple individual-level effect as people are influenced by others' behaviours in said social context. Results from multiple studies using structural equation modelling with various samples (e.g., Norwegian vs Turkish, Indian or Pakistani; Northern vs Southern Italian; White British and Asian; etc.) support this conception of norms as a mediator of intergroup contact effect (Capozza et al., 2013; de Tezanos-Pinto et al., 2010; Turner et al., 2008; Wang et al., 2019). For instance, in a survey conducted with ethnic Norwegian children, de Tezanos-Pinto et al. (2010) demonstrated how norms mediated the relationship between extended contact and attitudes toward the outgroup. Specifically, the more children observed intergroup contact between their peers the more it reduced their perception of anti-contact norms, the latter increasing their positive attitudes toward either Turkish, Indian or Pakistani children. Another example shows that peers and family intergroup dating norms mediated the relationship between positive intergroup contact and general attitudes toward the outgroup for Catholics and Protestants in Northern Ireland, in particular among people with strong ingroup identity (Paterson et al., 2019). More precisely, previous experience of positive intergroup contact predicted a higher level of general positive attitudes toward the outgroup and increased likelihood of intergroup dating by in-

fluencing people's perception of their peers and family. Increasing the likelihood of them being perceived as being supportive and comfortable with the idea of engaging in an intergroup marriage.

Overall, multiple studies demonstrate the role of social norms as one of the mechanisms behind the intergroup contact effect. However, as we will see later, social norms (in particular those about intergroup interactions) are not limited to mediating the effect of intergroup contact but can also affect people's engagement in said contact (e.g., exclusion and avoidance, relation expectations; Al Ramiah et al., 2015; Bagci & Gungor, 2019; Cocco et al., 2021; Meleady, 2021; Park et al., 2020; Paterson et al., 2019; Tropp et al., 2014; van Bommel et al., 2020).

When does intergroup contact work?.

Allport et al. (1954) initially identified four conditions needed for intergroup contact to reduce prejudice (Allport et al., 1954, i.e., 1 - Cooperation between groups, 2 - Equal status within the contact situation, 3 - Shared goals, 4 - Support of authorities).

Since this seminal work, evidence has demonstrated that these boundary conditions, while promoting the best outcomes, are not always necessary and new studies also highlight additional potential boundary conditions (i.e., conditions for contact effect to work or be maximised), including ingroup identification (micro level, Méndez et al., 2007; Voci et al., 2015; White & Abu-Rayya, 2012), group status (meso level, Saguy et al., 2008), and laws, customs, and authority support (macro level, Allport et al., 1954; White & Abu-Rayya, 2012). For instance, ingroup identification (e.g., the importance of ingroup membership) moderates the effect of intergroup contact on forgiveness (Voci et al., 2015) or the effect of dual identity electronic contact intervention (or DIEC: contact intervention under the form of a synchronous internet chat between Muslim and Catholic student with a focus on a both their religious identity and their common Australian identity) on

intergroup bias. Indeed, the DIEC intervention was particularly effective in reducing intergroup bias for Muslim and Christian participants with higher levels of ingroup identification (White & Abu-Rayya, 2012).

The limits of intergroup contact: lack of engagement

From the tension rising between Democrats and Republicans to the Black Lives Matter movement going through the recent increase in the conflict between Ukraine and Russia, it is evident that intergroup conflict remains a serious problem. Persisting and rising intergroup conflict illustrates the seemingly limited impact of intergroup contact in more and more diverse societies. There is probably enough accumulated evidence (Paluck et al., 2019; Pettigrew & Tropp, 2006) to show that when friendly or non-hostile intergroup contact happens in the real world, it has positive outcomes for the groups involved. Today's interconnected world arguably has more opportunities for contact than ever before. However, such opportunities for contact are not obviously reducing intergroup conflict across society, as opportunities for contact are not equal to engagement in or positive outcomes of said contact.

The question of "why are opportunities for intergroup contact often missed" has been raised (Paolini et al., 2018, P.2), and recent reviews of intergroup contact suggest people's lack of engagement and even active avoidance of intergroup contact as a reason for its limited impact in real life. Understanding when, why and how people engage in intergroup contact has become an urgent challenge to promote equity, social cohesion, and better intergroup relations. This incentive to focus on intergroup contact engagement, in addition to intergroup contact's effects and underlying mechanisms, has led scholars in the field to engage in a new trend of research with the objective of "leading the horse to the water" of contact (Pettigrew et al., 2011, p.168).

What does lack of engagement in intergroup contact mean?

Before we go further in describing predictors of intergroup contact engagement, we need to give some definition of engagement or avoidance of intergroup contact. As we have seen earlier on, intergroup contact can take many forms (e.g., direct, e-contact, extended contact). We also defined contact (under the intergroup contact theory framework and as conceived in this work) as freely chosen (in opposition to forced) interactions where someone from a specific group engages (in various ways, e.g., direct vs through media) with a member of the outgroup (Bagci et al., 2020a) and the membership of said outgroup member is somewhat salient.

When considering intergroup contact engagement, one has to consider this definition, especially the question of contact volition. Contact volition refers to the extent to which someone engages in intergroup contact deliberately (i.e., active engagement, intentional choice, e,g., intergroup friendship) in opposition to contingent contact, which is the result of situational or external factors (e.g., the outgroup is present in the same space or one's has to interact with outgroup following authority's orders). If contact can still have positive outcomes without volition, higher levels of contact volition would lead to increased intergroup contact (Bagci et al., 2020a, e.g., More intimate contact, positive attitudes, and behaviour tendencies).

Similarly, Harwood (2021) proposes a conception of intergroup contact engagement around two dimensions: *if* and *how*. *If* refers to the situational variability in contact volition (i.e., from required to freely chosen). *How* refers to the situational variability in available modes of contact (e.g., multiple vs one, direct vs imagined). Harwood argues that to consider people's intergroup contact engagement or avoidance behaviour; one needs to consider *if* and *how* people can engage in intergroup contact and their interdependence. In other words, understanding intergroup contact engagement means considering not only the opportunity available (i.e., quantity) but if people choose to engage or not and the many forms lack of engagement in or avoidance of intergroup contact can take.

Studies on intergroup contact engagement give some examples of these different forms. One of which is informal segregation. Multiple studies, sometimes using novel methods such as GPS tracking, revealed the existence of informal segregation. Segregation is defined as the "spatial separation of residences, activities, or both, between groups that are distinguished by religion, ethnicity, socio-economic status, or similar attributes" (Huck et al., 2019, p.224). Informal segregation refers to segregation happening outside a specific formal or legal system. For instance, such segregation persisted after the withdrawal of the segregation (i.e., U.S.) or the apartheid (i.e., South Africa) laws. Effects of informal segregation have been demonstrated in different contexts. Northern Belfast sees Protestants and Catholics limited use of public spaces, facilities and pathways located in the shared or outgroup areas, even long after the peace agreement of 1998 (Huck et al., 2019). Similarly, despite a diverse population and a liberal reputation, the University of Cape Town (S.A.) sees student sitting choice being dictated by their racial group membership even if the laws (e.g., Population Registration Act of 1950) enforcing the apartheid system (i.e., institutionalised segregation) were no longer in place (Tredoux et al., 2005). Another example shows how norms dictate the behaviour of mothers in playgrounds. Indeed, despite Helsinki equality and diversity policies, observations reveal a high prevalence of ingroup (vs intergroup) contact between mothers and families at playgrounds in diverse neighbourhoods (Paajanen et al., 2023). In other words, even when the contact opportunities are present, no institutional segregation is in place or that conflict is supposed to be in the past, people will tend to turn toward their ingroup, avoiding or lacking engagement with the outgroup. These segregation effect exist in various settings and are independent of the history or regulation of the country. Indeed, Northern Ireland, South Africa and Finland have very different histories and regulations highlighting the general impact of this phenomenon of illusory contact happening in diverse societies and reinforcing the importance of understanding what factors can influence people's desire to engage in intergroup

contact.

Further, studies also reveal other forms of lack of engagement or avoidance, such as lack of engagement in collective action supporting outgroup rights (Adra et al., 2020), online interaction (Meleady, 2021) or the selection of media (Park et al., 2020, see also, Harwood, 1997; Iyengar et al., 2009; Knobloch-Westerwick et al., 2008). For instance, White, Asian, or Black American participants avoided media depicting outgroup individuals (i.e., vicarious contact) in favour of media featuring ingroup members (Park et al., 2020).

The question of intergroup contact engagement is complex. The evidence reviewed here demonstrates that intergroup contact engagement can take many forms (e.g., engagement in face-to-face interaction and engagement in mediated contact). It suggests that despite apparent diversity and the absence of conflict, people will often miss contact opportunities or meaningful engagement in said contact opportunities. Some evidence suggests that this issue is anchored in people's limited contact capacity and from early social learning (i.e., ingroup favouritism learned in childhood Turner & Cameron, 2016). Indeed, some authors argue that we learn from a young age to privilege the ingroup and have a limited capacity to form relationships (ingroup and cross-group alike). Results have shown that people the more people already have relationships, the less they are interested in forming new ones. Finally, it is good to mention that direct avoidance of or lack of engagement with the outgroup and favouritism of the ingroup are all forms of lack of engagement.

For the purpose of this work, we define lack of contact engagement as "lack of volitional contact seeking". That is the lack of engagement or active avoidance in contact with outgroup members when contact engagement is free (in opposition to forced), and the group membership of the outgroup partner is made salient. We acknowledge that said lack of engagement could take many forms but will focus on the general conception of lack of engagement rather than any specific form. Further, while, at times, we also consider active avoidance of intergroup contact

(i.e., avoidance intention), the present work will mainly focus on passive lack of engagement (i.e., lack of engagement in contact, contact intention or actual contact). That is when people do not engage in said contact without consciously or explicitly putting strategies in place to avoid the outgroup member.

When and how do people engage in intergroup contact?

With this definition of intergroup contact engagement or lack of engagement in mind, we will now review some predictors of said engagement. Reviews of intergroup contact engagement highlight various predictors acting at different: the micro level (i.e., level of the individual,e.g. Individual beliefs differences), meso level (i.e., level of the groups, e.g. Intra and intergroup processes), and macro level (i.e. Societal level, e.g. Normative context Lewin, 1939; Pettigrew, 1997).

For instance, social norms or roles in conflict settings have been identified at the macro or societal level. At the meso or group level, factors such as group membership, group categorisation, intergroup emotions, or history of conflicts between groups have been identified(see Kauff et al., 2020; Paolini et al., 2018; Ron et al., 2017, for a review). Other studies have identified predictors at the micro or individual level including individual differences in terms of beliefs and personality such as RWA (i.e., Right Wing Authoritarianism) and SDO (i.e., Social Dominance Orientation) level, xenophilia or poly-culturalism as well as self-efficacy or self-expansion motives (Kauff et al., 2020; Ron et al., 2017; Turner et al., 2020) and (personal) past contact experience (Barlow et al., 2009; Schlüter et al., 2018; Turner et al., 2013).

Macro level. Intergroup contact starts with one or more individuals who are members of specific groups but they are not removed from their environment. Consequently, factors going beyond individual differences and the group can influence engagement in intergroup contact. We have seen earlier that norms, laws or authorities can explain in part the effect of intergroup contact [REF], but can they also influence willingness to engage in intergroup contact? Widely studied, norms

have been demonstrated to mediate and moderate the effects of intergroup contact but also to predict behaviour, including intergroup contact engagement. In four studies (cross-sectional and experimental), Meleady (2021) reports evidence of ingroup descriptive norms (ingroup intergroup contact level) predicting White British participants' contact intention toward immigrants. Overall, multiple studies account for the role of norms in intergroup contact engagement. In other words, ingroup and outgroup normative support for intergroup contact can influence individuals' engagement in said behaviour (see the section: the limit of intergroup contact, norms; in Chapter 1 part for more details). Another macro-level factor is the role of groups in conflict. In their review (Nadler & Saguy, 2004) identify two goals for groups facing conflict: separation of groups vs harmony. These two objectives are often set at the societal level to manage conflict resolution or reconciliation. Separation is a form of segregation, both groups stay on their side leading necessarily to the absence of contact or even active avoidance of said contact (e.g., Belfast/Northern Ireland during the Troubles, Israel and Palestine. This was also the case during the time of the Apartheid (South Africa) or Segregation (U.S.). Harmony, on the other hand, refers to the goal of some groups to live in harmony as one social unit. It pursues ideas of integration and favours contact between groups. In their paper, Staub et al. (2003) describes the case of Rwanda where perpetrators and victims had to find ways to live peacefully together. The reconciliation here followed this objective of harmony and integration. A goal operationalised during the trials through discussion about the event to change the two groups' orientation toward each other (i.e., a sort of contact intervention). Overall, multiple factors, from the norms held by different groups to more general aspects of society organisation, can influence engagement in intergroup contact. Some of those factors, such as norms, media and laws will be further developed later.

Meso level. One's identity is composed of both an individual and a social part. In other words, one's group memberships are part of the self (Tajfel, 1972).

Consequently, it seems logical that factors acting at the group level can influence one's willingness to engage in intergroup contact. One such factor is intergroup emotions. As we have seen earlier, intergroup emotions play an important role in explaining the effects of intergroup contact. But they can also affect individuals' willingness to engage in intergroup contact. For instance, reduced anxiety (as a result of cross-group friendship) has led to reduced active avoidance between white and aboriginal Canadians (Turner et al., 2013). In three studies using scenarios, interviews, and real event responses, Halperin (2008) demonstrated the role of another emotion: hatred. As can be seen from the results of the three studies, hatred is an emotion distinct from fear and anxiety as it has unique cognitive appraisal components and emotional goals. Indeed, while anger relates to "justness", hatred relates to "intentional harm" and "outgroup as evil" as well as the general goal of avoidance and extermination. In other words, when being reminded of the outgroup actions (toward state security support for or engagement in acts of terror and destruction toward Israel) hatred predicted the intention to avoid intergroup contact as well as harming the outgroup for Israeli participants (Halperin, 2008). Further highlighting the role of intergroup emotions in intergroup contact engagement, Burns et al. (2008) showed that suppressing (negative) emotions of highly prejudiced people increased their willingness to engage in intergroup contact.

But intergroup emotions are not the only factor influencing contact engagement at the meso or group level, other factors such as group identification and intragroup processes (Kauff et al., 2020) have also been identified. (Gómez et al., 2008) illustrate this influence of intergroup identification in two experiments. By manipulating student perception of ingroups and outgroups as categorising the groups within a superordinate category, they were able to show that group identity and categorisation reduced intergroup bias (negative views of the outgroup) and increased willingness to engage in interact and cooperate with members of the other schools (i.e., outgroup in the future). Similarly, Glasford and Dovidio (2011) show the ben-

efit of considering dual rather than individual or common identity in the case of majority/minority dynamics. Indeed, research has shown that differences in status often lead to differences in experiences and effects of intergroup contact (see Ron et al., 2017). In their experiment, they illustrate how highlighting the appurtenance to both a specific ethnic/racial group (identity 1) along with being members of the common general American identity (identity 2) not only increased willingness to engage in contact but also maintained motivation for social change. But this effect of identity is not limited to group categorisation but also relates to intragroup processes such as group confidence in contact and ingroup support. For instance, Stevenson et al. (2021) have shown how one identification with the ingroup predicts the influence of collective efficacy in contact (i.e., the ability of one group to achieve a goal, here intergroup interactions) which, in turn, predicted a greater level of engagement in contact. Study 2 reveals the mediational role of anxiety in this effect. In other words, if one strongly identifies with their ingroup and believes the latter possesses the ability to engage in contact, then it will reduce their anxiety and result in more contact for said individual (see Kauff et al., 2020, for a review). Overall, multiple factors seem to influence contact engagement at the meso or group level and appear to be intertwined between themselves but they also seem to relate to individual factors, highlighting the necessity to look at factors playing at each level.

Micro level. While influenced by general macro social factors and meso or group factors the individual is still at the centre of the equation and scholars have shown how individuals' personality traits, ideologies, motivation or personal experiences can influence willingness to engage in intergroup contact. Multiple studies have looked at the influence of individual differences and in particular personality traits and ideologies on intergroup contact effects as well as engagement in said contact (see Turner, 2020 for a review). Two widely studied aspects across the contact literature are Right Wing Authoritarianism (RWA Altemeyer, 1996; "preference for traditional norms and submission to authority" Turner et al., 2020, p.2) and Social

Dominance Orientation (SDO Pratto et al., 1994; "desire for hierarchical intergroup relations and social inequality" Turner et al., 2020, p.2). Many studies demonstrate how they can influence intergroup contact engagement. For instance, Pettigrew and Tropp (2008) demonstrated how low RWA correlates with higher levels of positive contact. Dhont and Van Hiel (2009) confirmed these results and expanded it by showing how RWA and SDO correlate positively with negative contact such that more RWA is related to more negative contact. Going further, Asbrock et al. (2013) demonstrate in two studies how these ideologies predict engagement in contact. In particular, their results show how an imagined contact intervention predicted an increase in willingness to engage in future contact with Turks or Romani for Germans with high RWA. In their first study, they also showed similar results for low SDO Germans, but these results did not replicate in their second study (Asbrock et al., 2013). Studies have also explored other, more positive ideologies such as poly-culturalism ("people's tendency to focus their attention on how cultures have interacted, influenced, and shared ideas and practices with each other throughout history and how they continue to do so today" Ron et al., 2017, p.214) and xenophilia ("an attraction to foreign people, cultures, or customs that manifests itself in curiosity and hospitality toward foreigners and benevolent cross-cultural exploration" Stürmer et al., 2013, p.832). In four correlational studies, Rosenthal and Levy (2012) have illustrated the role of poly-culturalism in intergroup relations, they have shown how higher poly-culturalism traits predict more positive intergroup attitudes, reduced SDO level, and increased support for integration and equity policies as well as willingness to engage in intergroup contact. Effects independents from other ideologies such as SDO. In other words, poly-culturalism promotes contact engagement and reduces obstacles to said engagement. Finally, in three studies, Stürmer et al. (2013) demonstrated the influence of another positive ideology and its link to individual personality traits. Their results indicate how endeavour personality traits (e.g., extraversion, openness to new experiences) positively predict

xenophilia which can manifest as a willingness to engage in contact and general support for such behaviour.

Another aspect of the individual that can affect their engagement in contact is their motivation for self-expansion. Self-expansion is a "positive orientation toward "otherness" [that] stems from a fundamental human motivation to expand the self in order to increase one's general self-efficacy" (Paolini et al., 2016, p.451). This expansion can be achieved by new activities but also new relationships, especially with dissimilar others. This new relation can for example bring new knowledge and develop feelings of self-efficacy through the inclusion of the other in the self (Paolini et al., 2016). Stürmer and Benbow (2017) developed a standardised measure of individual motivational function (study 1a and 1b) and illustrated in two experiments (study 2a and 2b) how the pursuit of different individual benefits and the opportunity to fulfil said benefit present in the environment can influence intergroup contact engagement. Indeed, in the first experiment (2a) they show that people's evaluation of contact opportunities is more favourable when it matches their personal motivation. In a second experiment, participants chose to interact with the proposed partner that matched their own benefit. For instance, if their self-expansion motive was social development they favoured the partner highlighting their desire to make a connection and develop a friendship over the one expressing their desire to talk about cultural differences (Stürmer & Benbow, 2017). The importance of self-expansion motives is further highlighted by Paolini et al. (2016). In their first study, they show how self-expansion motivation positively predicts more positive contact and direct and indirect friendship by increasing willingness to engage in intergroup contact. Further, in a second study they show how it is possible to manipulate said self-expansion motivation (i.e., random self-expansion profile distribution after a questionnaire) but also how believing to have a high desire to self-expand oneself influenced the choice of an outgroup (but not ingroup) partner for White participants. In other words, when told how developing themselves was important for

them participants selected more outgroup partners that fit this objective compared to people in the low self-expansion condition.

Overall, the question of what predicts contact engagement is complex. As we have seen multiple factors acting at different levels have been explored, such as group/society objectives, intergroup emotions, group identity and support, personality traits, ideologies or self-expansion motivation. But others can also play a role. Among those predictors, three interest us in particular for this project: meta-perception, perception of the outgroup and social norms. We consider these factors to be particularly important regarding their prevalence in everyday life. We are constantly drawn to compare ourselves to others and wonder what they might think of us. In their review of meta-perception in the workplace Grutterink and Meister (2021) illustrate this point by explaining how to keep their place or progress in their professional environment people reflect on our they are seen, and how their behaviour is perceived. Did they look competent? Their perception of others is as important too, it will influence whether they reach out to someone or seek someone else for a task. Similarly, if the company has cooperative policies then people might be more prone to engage in tasks together rather than working individually on tasks to favour their advancement. But this is not limited to the workplace and influences most of our actions. When I was in high school, we were divided into two groups with different majors. Each group perceived the other group as particularly competent in their domain and thought they were seen by them as incompetent in said domain. It was only when the negative bias of those perceptions was demonstrated to us and a new more tolerant norm was implemented by the teacher that tension and avoidance between the two groups were reduced. These examples are illustrative of the importance that meta-perception, perception of the outgroup and norms can have in everyday life and on our behaviour, enhancing our desire to further explore their influence on intergroup contact engagement.

Perceptions: meta-perception and perception of the outgroup

Meta-perception.

> *"Because we see ourselves through the eyes of others, [we] are deeply interested in how others see [us]"*
>
> (Cooley, 1902; in Obaidi, 2019).

Meta-perceptions, also referred to as meta-stereotype or meta-prejudice, are defined as individuals' beliefs about how their or their group's personal attributes (e.g., personality traits, emotions, beliefs, and humanity) are being perceived by others and can be either positive or negative. Studies across multiple fields (e.g., social psychology, multidisciplinary psychology, psychiatry or even business and management, Grutterink & Meister, 2021) have studied this concept and proposed different terms depending on meta-perception content and definition, such as meta-stereotype (e.g., Vorauer et al., 2000), meta-dehumanisation (e.g., Kteily & Hodson, 2016; Stathi et al., 2020), meta-emotions (e.g., Pauketat et al., 2020), meta-prejudice (e.g., Moore-Berg et al., 2020a). Further, both interpersonal (or self) meta-perception and intergroup (or group) meta-perception have been identified (Fowler & Gasiorek, 2020; Frey & Tropp, 2006; MacInnis & Hodson, 2012). Self meta-perception is said to emerge from the combination of others' behavioural observations, projection of one's view of oneself (others see me as I see myself), perspective taking (taking the other's view) and reliance on stereotypes (Frey & Tropp, 2006). Group meta-perceptions are said to be based on similar processes but are dependent on social identity and situational (e.g., presence of outgroup members) and individual (e.g., group identification) cues highlighting group membership salience (Frey & Tropp, 2006).

What are the effects of meta-perception in general?. From expectation to behaviour, meta-perceptions have been demonstrated to impact multiple aspects of intergroup relations, such as well-being (Gordijn et al., 2017), per-

ceptions of intergroup interaction and relation (Vezzali, 2017), response to threat (Pauketat et al., 2020), delinquency (Issmer et al., 2013), intergroup help-seeking behaviour (Borinca et al., 2021). Of particular interest for us is the impact of meta-perception on intergroup contact engagement (Borinca et al., 2021; Fowler & Gasiorek, 2020; MacInnis & Hodson, 2012; Moore-Berg et al., 2020a; Quesnel, 2020). For instance, participants' meta-humanisation (i.e., beliefs that "outgroup members perceived them as fully human") increased acceptance of outgroup help and contact intention in two contexts (i.e., Kosovo and North Macedonia; Borinca et al., 2021, p.2). Specifically, Borinca et al. (2021) manipulated participants' meta-humanisation, meta-dehumanisation and meta-liking using a fictional but realistic news release about the relations between Kosovian and Serbians (experiments 1 and 2) and Macedonians and Greek (experiment 3). Results highlight how, when in situations where an outgroup member offers help, being perceived as as human as the outgroup increases not only their liking of the outgroup but also their attribution of prosocial motives to said outgroup member, acceptance of help and general willingness to interact with the outgroup. Further, meta-humanisation was more predictive of the behaviours than meta-dehumanisation (i.e., being seen as less human than the outgroup), meta-liking (i.e., being as liked as the outgroup) or control condition. Similarly, inactive, responsible, and allyship meta-beliefs increased engagement in different forms of collective action against racial injustice among low ingroup identities (Adra et al., 2020). Another example demonstrates that a higher level of meta-dehumanisation predicts a greater desire to avoid outgroup parties among Democrats and Republicans (Moore-Berg et al., 2020b). Altogether, these examples demonstrate the effect of meta-perception on engagement in various forms of intergroup contact.

What are the specific effects of self vs group meta-perception?. Most studies, however, provide robust evidence of the role of group meta-perceptions in intergroup contact, and less interest has been given to the role of self meta-

perception. Yet, some studies comparing both have demonstrated that self meta-perception is a stronger predictor of intergroup contact engagement. In an experiment with White Canadians, (MacInnis & Hodson, 2012) showed how self meta-perception was particularly predicted of actual avoidance when compared with group meta-perception and perception of the outgroup. After being asked to complete a first ambiguous but race-oriented task participants were presented with the profile of the person they would interact with if they pursued the experiment. The profile depicted a 20-year-old Black person who likes to watch TV. Participants were then placed in one of four conditions where they learn that based on the results of the first task: 1) their partner favours Black people over Whites people (personal other stereotype); 2) Black people in general favours Black people over White (group other stereotype); 3) their partner consider them to favour White people over Blacks (self meta-perception); 4) Black people consider White people to favour White people in general (group meta-perception). Participants then indicated their intention to interact with the person (i.e., contact intention) and chose whether they pursued the experiment with the planned interaction or decided to select a new partner (i.e., actual contact engagement). The results show that no difference was observed between the condition in terms of contact intention. Participants generally reported the intention to interact with the outgroup partner. However, self meta-perception was more predictive of their actual choice (vs change) of partner than group meta-perception and all other conditions. Similarly, self (but not group) meta-perception valence (i.e., list of positive or negative impressions the participant thought the outgroup held about their group and how they apply to them personally) was found to impact the perception of inter-age distance and contact avoidance intention among young and older adults (Fowler & Gasiorek, 2020). While both self and group meta-perception have been demonstrated to play a role in intergroup relations and influence intergroup contact, more evidence is needed regarding the specific role both processes play.

What are the specific effects of positive vs negative meta-perception?. Investigations have revealed the impact of both positive and negative meta-perception. For example, positive meta-perception has been found to impact attitudes positively (Matera et al., 2015, 2020). Conversely, negative meta-perception (i.e., expectations of the majority society regarding juvenile 'delinquents') has been found to influence behaviour (Issmer et al., 2013), with more negative meta-perception leading to more aggressive behaviour.

Some studies have investigated both and revealed some asymmetry in their effect. Although both seem to impact the desire to avoid intergroup contact via intergroup anxiety (Fowler & Gasiorek, 2020), other studies show a more substantial impact of positive meta-perception on various behaviours, such as shaping intergroup attitudes (Matera & Catania, 2021), well-being (Matera et al., 2020), or expectation regarding future contact (Vezzali, 2017). In two studies, positive meta-perception improved expectations regarding future contact, while no effect of negative meta-perception was found (Vezzali, 2017). On a different note, negative meta-perception increased the willingness to help outgroup members more than positive meta-perception, most probably to disconfirm the stereotype (van Leeuwen & Täuber, 2012).

Altogether, studies on meta-perception have highlighted the effect of different types of meta-perception (e.g., meta-stereotype, Vorauer et al., 2000; meta-dehumanisation, Kteily & Hodson, 2016; Stathi et al., 2020; meta-emotion, Paukettat et al., 2020; or meta-prejudice, Moore-Berg et al., 2020a) on intergroup behaviour, including intergroup contact engagement in multiple socio-cultural (e.g., north America, Europe, Asia, Middle east) and intergroup contexts (e.g., political context, Lees & Cikara, 2020; Lees, 2021; religious context, Putra & Wagner, 2017; racial context, MacInnis & Hodson, 2012; Vorauer et al., 1998, etc.). They revealed that meta-perception could either be centred around the self or the group and either be positive or negative, influencing different behaviours.

Are meta-perceptions accurate?. The question of meta-perception accuracy has been extensively studied. Meta-perception (in-)accuracy refers to whether meta-perception corresponds to the social perception (i.e., perceptions held by outgroup members). In other words, does one's belief about how an outgroup perceives him or his group reflect how said outgroup actually perceives them or their group? They can be inaccurate in two ways: 1) the actor (i.e., perceived individual) misperceived the target (i.e., perceiver, either an individual or a group) perception of them; 2) an individual member of a target group does not subscribe to the common stereotype about the actor's group (Finkelstein et al., 2013). Classically, meta-accuracy is evaluated by either measuring the relation or the difference between meta-perception and social perception (Donnelly et al., 2022).

Studies investigating meta-accuracy suggest that meta-perception, like most "inferences of other's beliefs, thoughts, reactions, or characteristics, are usually biased" (Lu et al., 2018, p.1). Report of meta-perception highlights their inaccuracy and their tendency to be overly negative. For instance, results from seven experiments indicate that meta-perception was negatively biased across multiple scenarios, samples, and competitive contexts (e.g., political context, inter-gender context, Lees & Cikara, 2020). Similarly, middle age and older workers overestimate negative stereotypes held by younger workers. The latter tends to equally overestimate the negative stereotype of both groups of their elders (Finkelstein et al., 2013). A few explanations have been provided, indicating that individual differences (e.g., pathologies, self-view) and the intergroup context (e.g., history and intimacy between groups, group membership, Donnelly et al., 2022) both play a role in meta-accuracy and its negative bias.

A related concept: perception of the outgroup.

Perception of the outgroup can be defined as one's beliefs (perceptions or attitudes) about others' (i.e., either individual group members or the group as a

whole) personal attributes (e.g., personality traits, emotions, beliefs, humanity).

Decades of research have explored the relationship between attitudes and behaviours. Ever since Ajzen's seminal work (Ajzen & Fishbein, 1977, 1980) and later his building of the theory of planned behaviour (Ajzen, 1991), multiple studies have evidenced links between attitudes and behaviour (Albarracin et al., 2005). While this theory has been subject to debate due to mixed evidence, a study suggests that this is due to differences in the level at which attitudes and behaviour were observed. In other words, general attitudes (e.g., toward policies) were found to be related to general but not to specific behaviour patterns (Ajzen et al., 2018). These findings explained the inconsistency in the literature and further supported the link between attitude and behaviour.

The literature also demonstrates a significant relationship between attitudes (toward an outgroup) and intergroup relations, particularly intergroup contact (with said outgroup). If numerous studies account for the role of contact in changing perceptions one's holds about outgroup members (i.e., Banas et al., 2020; Lemmer et al., 2015; Pettigrew & Tropp, 2006), evidence also suggests one's perception of the outgroup can influence their intergroup contact engagement (Capozza et al., 2017; Turner et al., 2013), such as renting in diverse areas (Schlüter et al., 2018) or outgroup aggression (Kteily & Hodson, 2016) and support for aggressive foreign policies (O'Brien et al., 2018).

More interestingly, evidence suggests that one's perception of the outgroup mediates the relationship between meta-perception and engagement in intergroup contact (Kteily & Hodson, 2016; MacInnis & Hodson, 2012; O'Brien et al., 2018; Pauketat et al., 2020; Stathi et al., 2020). For instance, meta-dehumanisation has been demonstrated to influence Islamophobia levels (Pavetich & Stathi, 2021) or outgroup aggression behaviour (Kteily & Hodson, 2016) through increased outgroup dehumanisation. Similarly, outgroup perception mediated the impact of meta-perception (e.g., trust, compassion) on foreign policy support and diplomacy open-

ness in multiple intergroup contexts (i.e., American vs Iranians, fictional country, Germans, Saudi Arabians, O'Brien et al., 2018). In three experiments conducted in both fictitious (experiment 2) and real intergroup settings (experiments 1 and 3), they presented Americans with fictitious polls about how an outgroup (e.g., Iran, Kionda) supports either positive or negative national policies toward the U.S. (i.e., positive vs negative condition) or no poll (i.e., control condition). These polls influenced participants' meta-perception and perception of the outgroup with both being more positive in the positive condition. Further, results reveal that positively increased openness for diplomacy and reduced support for aggressive policies toward the outgroup. This effect happened because participants positive exposure generated more positive meta-perception (i.e., participants thought the outgroup saw them positively) and they in turn had more positive views of said outgroup ultimately affecting their behaviour toward said outgroup.

When and how does meta-perception affect intergroup contact engagement?.

Meta-perception can influence intergroup behaviour and intergroup contact engagement, with negative meta-perception leading to less engagement, an effect mediated by the perception of the outgroup. Studies on inaccuracy revealed a negative bias of meta-perception (i.e., more negative than reality), an effect dependent on individual differences and the intergroup context. Consequently, it seems important to understand for whom and how meta-perception works to better understand its effect on contact engagement.

Past experiences. Both meta-perception and perception of the outgroup have been demonstrated to depend on individual characteristics and experiences, such as contact quality and quantity. For instance, reduced contact quality increases meta-dehumanisation and dehumanisation in multiple intergroup contexts (e.g., Kteily & Hodson, 2016; O'Brien et al., 2018). This is an effect that persists

over time and is independent of the form of contact (e.g., direct contact, vicarious contact, Bruneau et al., 2021). Similarly, indirect exposure to the outgroup has been demonstrated to impact behaviour such as support for foreign policies or openness to diplomacy by impacting the level (or valence) of meta-perception and perception of the outgroup (O'Brien et al., 2018). Overall, one's intergroup experience (e.g., contact quality, Bruneau et al., 2021; O'Brien et al., 2018; general intergroup relations Putra & Wagner, 2017) impacts the perception of the outgroup or meta-perceptions and their effect on behaviour and attitudes (e.g., prejudice, support for foreign policies, contact engagement; Bruneau et al., 2021; O'Brien et al., 2018; Putra & Wagner, 2017).

Individual characteristics. On a similar note, meta-perception and perception of the outgroup effects vary as a function of individual characteristics such as gender (Babbitt et al., 2018), ingroup identity (He et al., 2017) and prototypicality (Méndez et al., 2007), personal level of prejudice (Vorauer, 2003) or self-esteem (Issmer et al., 2013). For instance, for participants high in prototypicality (i.e., being or considering oneself as a good example of a typical group member possessing the characteristics defining most ingroup members), a high level of positive meta-perception predicted a high level of self-meta-perception and a higher desire to interact with than avoid the outgroup. However, participants low in prototypicality were less influenced by meta-perception (valence, Méndez et al., 2007).

To summarise. Evidence highlights the role of meta-perception in intergroup contact engagement. More precisely, negative meta-perceptions are said to reduce said engagement, an effect mediated by the perception of the outgroup. Evidence also demonstrates a negative accuracy bias suggesting that meta-perception tends to be more negative than the actual social perception held by the outgroup. Further, studies demonstrate that both group and self meta-perception can have an effect yet suggest that self meta-perception is a stronger predictor of contact engagement. Finally, evidence suggests that individual differences and the inter-

group context influence meta-perception (and its accuracy) and perception of the outgroup.

Norms

> *"Social norms are the foundation of culture, language, of social interaction, cuisine, love, marriage, play, prejudice, economic exchange, and traffic control. The element of this list are fundamental to human life, the list is endless"*
>
> (McDonald & Crandall, 2015, p.1).

As a fundamental cross-disciplinary concept, definitions and conceptualizations of social norms are scattered across those disciplines bringing with it a debate on what norms are precisely and how they influence behaviours. However, there seems to be a consensus that norms are "an expectation about appropriate behaviour that occurs in a group context" (McDonald & Crandall, 2015, p.147). Norms are characteristics of some 'sociocultural units' (Pepitone, 1976; in Chung & Rimal, 2016). From their dynamic nature, norms are time- and context-dependent. They emerge, maintain, and change as a function of intra- and intergroup interaction and evolution in groups and social contexts.

Consequently, sources of norms are this social context, such as peers (Cocco et al., 2021; Jugert et al., 2011; Smith et al., 2021; Tropp et al., 2014), institutions, laws and authority or media (Grütter & Meyer, 2014; Ofosu et al., 2019; Paluck, 2009; Tankard & Paluck, 2017), and can be of both the ingroup (i.e., ingroup norms) or the outgroup (i.e., outgroup norms, Turner et al., 2008).

What are the different type of norms (and their relative influence)?.

Across research and theoretical works, different forms or types of norms have been identified (Cialdini & Jacobson, 2021). For instance, the theory of planned

behaviour (Ajzen, 1991) introduces the idea of subjective norms that refer to the social pressure to perform (or not) a behaviour depending on whether it is approved (or not) by important others. On the other hand, the theory of normative conduct (Cialdini et al., 1990) introduced the distinction between descriptive and injunctive social norms. Descriptive norms refer to 'what is'. They summarise what a group does and are said to have an informational social influence (for example, through conversation) that leads to genuinely held, informed attitudes. Injunctive norms, on the other hand, refer to what is mainly approved (or not) in a group and are said to have a normative group pressure influence (e.g., social sanction such as rejection of deviant) and may lead to more conflicted and ambivalent attitudes (McDonald & Crandall, 2015).

What are the effects of norms?.

As mentioned above, social norms are a fundamental and cross-disciplinary concept. As a result, social norms have been studied in connection with multiple topics such as health (e.g., smoking, Li et al., 2018), acculturation (Guimond et al., 2013), prosocial behaviour (e.g., anti-bullying; donation, participation in social movement, volunteering Goeschl et al., 2018; Smith et al., 2021), climate change (Cialdini & Jacobson, 2021; Smith et al., 2021) or intergroup relations (e.g., Christ et al., 2014; Cocco et al., 2021; Paterson et al., 2019; White et al., 2020, including prejudice reduction, exclusion and avoidance, relation expectations,).

Many studies evidenced the close relationship between social norms (i.e., regarding prejudice expression) and prejudice expression. For instance, Donald Trump's 2016 campaign changed the acceptability of expressing prejudices toward groups he targeted during his speech (compared to those not targeted Crandall et al., 2018). However, the relationship between social norms and intergroup relations does not limit itself to prejudice expression, with evidence supporting the relationship between social norms and intergroup contact (e.g., exclusion and avoidance, relation

expectations; Al Ramiah et al., 2015; Bagci & Gungor, 2019; Cocco et al., 2021; Meleady, 2021; Park et al., 2020; Paterson et al., 2019; Tropp et al., 2014; van Bommel et al., 2020).

Recent evidence illustrates the role of social norms as a predictor of engagement in intergroup contact. The first evidence comes from research on cross-group friendship (i.e., extended contact, Wright et al., 1997) with the idea that seeing ingroup members having cross-group friendships will influence one's behaviour. For example, the parental contact experience, acting as descriptive norms, influences the adolescent's own contact experience (Bagci & Gungor, 2019). Similarly, inclusive peer norms (i.e., support for cross-group friendship) predict children's engagement in cross-group friendship among children in multiple samples (Jugert et al., 2011; Tropp et al., 2014). Indeed, in a longitudinal study using multilevel modelling, (Jugert et al., 2011) show that German children that, at the beginning of the year, believed that their peers supported friendship with Turkish children and saw an increased in said support for cross-group friendship, engaged themselves in more cross-group friendship.

However, evidence is not limited to children or extended contact. Indeed, social norms have also been demonstrated to influence engagement in vicarious intergroup contact (i.e., film selection, Park et al., 2020), collective action and prosocial behaviour (Goeschl et al., 2018; Roblain et al., 2020; Smith et al., 2021) or informal segregation (e.g., influencing sitting choices, Al Ramiah et al., 2015). Evidence also illustrates the role of norms in a more direct situation, such as social exclusion (Cocco et al., 2021; Grütter & Meyer, 2014) or explicit intergroup contact intention. For instance, in four studies (cross-sectional and experimental), Meleady (2021) reports evidence of ingroup norms (ingroup intergroup contact level) predicting White British participants' contact intention toward immigrants. A first correlational study suggests that higher levels of support for intergroup contact in the ingroup predict higher levels of contact at the individual level. These results were experimentally

confirmed in a second study using newspaper articles to manipulate norm levels. More precisely, participants who learn about high levels of intergroup contact with immigrants among fellow Brits indicate more intention to interact with immigrants themselves. Going further, a third study using the same method shows that these results are valid for actual engagement as participants in the high contact norm condition choose to keep their attributed outgroup partner more often. Finally, in Study 4, results show that participants who learn that contact norms are low in their ingroup but follow an upward trend (i.e., growing compared to previous years) report more intention to interact with immigrants in the future. Overall, multiple studies account for the role of norms in intergroup contact engagement. However, ingroup norms have been the main focus of researchers, yet, evidence also accounts for the effect of outgroup norms on intergroup contact.

What are the specific effects of ingroup and outgroup norms?. Evidence, especially in the field of extended contact, also accounts for the role of outgroup norms (Cameron et al., 2011; Turner et al., 2008). Studies considering both ingroup and outgroup norms suggest they affect different processes. For instance, while both ingroup (i.e., Italian) and outgroup (i.e., immigrants) norms predicted contact intentions among Italian children, only ingroup norms predicted outgroup attitudes (Vezzali et al., 2015a). Similarly, Capozza et al. (2013) found a mediating effect of ingroup (but not outgroup) norms (i.e., support for cross-group friendship) on the relationship between extended contact and outgroup humanisation, an effect potentially dependent on participants' majority group membership status (i.e., northern Italian). Other studies, conversely, have found that both ingroup and outgroup norms predicted outgroup attitudes (Turner et al., 2008). Further, some studies highlighted that outgroup norms (i.e., support for cross-group friendship) were a stronger mediator of the relationship between extended contact and contact intention (Cameron et al., 2011). Overall, both ingroup and outgroup norms seem to play a role in intergroup contact engagement, and evidence suggests they would

have a distinct function. However, the details of such roles and asymmetry are still unclear and need further investigation.

What are some of the mechanisms behind norms?.

Overall, social norms, whether cultural, societal or from a closer intergroup context (e.g., political groups, peers, family), are said to have both a conscious and unconscious effect on behaviour. Indeed, people will try to follow established norms and correct their behaviour accordingly to avoid rejection, even in cases where they do not believe in the norm. However, social norms are also (unconsciously) internalised through social identification processes. When identifying as a group member, people internalise that group's beliefs, values and behaviour based on intentional (e.g., instruction, storytelling) and non-intentional cues (e.g. non-verbal behaviour, Cialdini & Trost, 1998). Social norms, including normative attitudes important to one's ingroup, become part of one's self and value system. Both unconscious internalisation of norms and conscious regulation based on perceived norms can inform one's behaviour, including behaviour related to intergroup relations, such as intergroup contact engagement.

To summarise, a long history of research explored the impact of norms on behaviour and evidence suggests norms affect intergroup contact engagement. Further, studies reveal that the sources of norms are varied (e.g., peers, laws, etc.), with different groups having different norms for a variety of reasons (e.g., group size, objective, etc.) and highlight an effect of both ingroup and outgroup norms on contact engagement. Finally, evidence suggests that, due to their dynamic nature and source, norms depend on the context surrounding the individuals involved.

The effect of intergroup context

While intergroup contact starts with an individual, no individual is removed from their larger social context. Indeed, intergroup contact presupposes that a per-

son's group membership is apparent. One's sense of self depends on past experiences and the cultural, and social values and norms surrounding them. Indeed, one's identity finds balance in combining personal traits (i.e., personal identity) and affiliation to various social categories, their emotional significance and value (i.e., Social Identity Theory, Brewer & Miller, 1984; Tajfel, 1972, 1974). Thus, individuals' links to their social environment cannot be ignored.

The study of intergroup contact should thus consider the general context surrounding the individuals concerned by the interaction. This context can be framed as the broad social context surrounding an intergroup exchange. The impact of context will depend on the groups concerned and their social environment and be composed of the individuals concerned and their perception of each other (e.g., perception of the outgroup, meta-perception) and of this context (e.g., social norms). It will thus vary as a function of the group membership of the individuals concerned, their feeling of similarity to the ingroup and outgroup, their group status and relative power, the history between the groups involved, and elements of the socio-cultural context such as media or laws.

The group concerned and their characteristics

An intergroup context is defined by the groups concerned. Usually, in intergroup contact research, this is restrained to two groups (e.g., Democrats vs Republicans, Blacks vs Whites). The context is thus dependent on said groups' characteristics, including the type of group and threat they pose, the status (and relative power) of each group, the history between the two groups and the feeling of similarity between and within groups.

Consequently, scholars have exerted their colleagues to consider all levels when studying this effect. More precisely, they suggest using the multilevel analysis presented by Lewin (1939) or Pettigrew (1997). In other words, consider intergroup contact from the micro level (i.e., level of the individual,e.g. Individual beliefs dif-

ferences), meso level (i.e., level of the groups, e.g. Intra and intergroup processes), and macro level (i.e., societal level, e.g. Normative context).

However, while, as one could expect, our conception of intergroup context is mainly operationalised by societal or macro level factors (i.e., acting at the society level), we consider the intergroup context to be also reflected by group (or meso, i.e., such as inter or intragroup processes) and individual (or micro, i.e., individual differences) level factors, reflecting the individuals and groups involved in said context. Indeed, the person involved in the intergroup contact opportunity is embedded in a social environment and is part of a group and consequently, we need to consider the relation between all these factors. For instance, the same context may vary between two individuals of the same groups as much as between members of the two groups involved. While both Black and White Americans live in the same country (and society) their conception of the intergroup context surrounding them and perception of, for instance, norms and media can be very different. The following sections will review some of the factors that underline these differences in intergroup context and their influence on (engagement in) intergroup contact. Other factors might exist (e.g., intragroup processes, self-efficacy, contact opportunities) and the following review is not exhaustive, it covers only the one we believe is particularly relevant to this project.

The type of groups.

Research on intergroup contact has explored various intergroup contexts (e.g., between groups based on disability, Carew et al., 2019; sexual orientation, Schiappa et al., 2005; ethnicity, Visintin et al., 2017; origin, Vezzali & Stathi, 2020; partisanship, Crandall et al., 2018) and results suggest that, in some cases, effects might differ as a function of the groups concerned.

Groups can vary in the way they are defined. Some groups' membership results from their opinions and values (e.g., political groups, activists). For others,

group membership is imposed either by a socially construed set of criteria (e.g., race) or biological preferences (e.g., sexual orientation). Some group memberships are salient (e.g., race), and others are less salient (e.g., political affiliation). Such diversity of group type is set to create differences in intergroup contact effect. For instance, for U.S. participants (i.e., White, Asian, Black and student respondents), the relationship between intergroup contact and prejudice was mediated by admiration and anger for racial outgroup and by admiration and disgust for outgroup based on sexual orientation (Seger et al., 2017).

This is further supported by Cottrell and Neuberg (2005) socio-functional model of prejudice, according to which emotional reactions would depend on the outgroup concerned and the threat they pose. Indeed, different groups can pose different types of threats because of what defines them and their status (and relative power; see below discussion on status and power effect). For instance, among European Americans, prejudices were higher towards non-fundamentalist Christians than toward Native Americans; however, a reverse pattern of findings was found regarding pity (Cottrell & Neuberg, 2005). Results also reveal that Native Americans presented a higher threat to the ingroup's value and property than Non-fundamentalist Christians, which posed a greater threat to the ingroup's freedom. Similarly, the influence of positive and negative contact on passive and active harm toward psychiatric patients, far-right activists and anti-vaxers was mediated by different emotions (Alston, 2022) due to the different types of threats they pose. In two studies, Asbrock et al. (2013) showed how an imagined contact intervention holds different results depending on the outgroup. Indeed, in a first study, they showed that Germans with low levels of social dominance orientation who imagined a positive interaction with Turks were more willing to interact with Turks. However, in a second study, they showed no effect of social dominance orientation in mediating the relationship between imagined contact and willingness to interact with Romani for Germans. These results suggest that intergroup contact engagement.

In summary, various characteristics can define groups and result in those same groups posing different types of threats. Consequently, individuals often act differently (e.g., passive vs active engagement in intergroup harm, willingness to interact with the outgroup) based on the group they face to respond to those different characteristics and threats and these behaviours can be explained by different factors.

The groups' status.

Tightly related to the type of groups concerned is the question of groups' status and their relative power. When Allport et al. (1954) first presented the intergroup contact hypothesis, he included the idea that for contact to be truly effective, groups must be of equal status within the contact situation. If this seems like a good idea on paper, it is nearly impossible to implement in naturalistic contact situations.

Most intergroup conflict emerges from inequalities between groups, and recent research has demonstrated how it can affect the intergroup contact effect. As Ron et al. (2017) explained, different expectations about the interaction come with differences in group status. In other words, groups with advantaged status (i.e., advantaged groups, often the majority) and groups with disadvantaged status (i.e., disadvantaged group, often the minority) have different expectations and experiences of intergroup contact.

Indeed, different groups, because they hold different places in society (e.g., Whites are often the dominant racial group in occidental societies), have different experiences of life and intergroup contact. Some groups encounter discrimination daily from outgroup members (e.g., Black people experiencing more negative shopping experiences in majorly White neighbourhoods, a higher probability of arrest occurs as skin tone gets darker (Lee, 2000; White, 2014). Other groups have less opportunity for contact (e.g., majority groups have fewer outgroup members to interact with), leading to different experiences of contact depending on said group status.

Evidence from the field of collective action suggests that while advantaged group members aspire to be seen as moral by disadvantaged group members, disadvantaged group members are looking for recognition of their identity and rights. Consequently, advantaged group members will avoid questions about inequalities and seek commonality-oriented intergroup encounters. In contrast, disadvantaged group members will explore similarities and differences to highlight inequalities (Hässler et al., 2020b). Under Allport's (1954) conditions, contact better suits the needs of the advantaged group as it promotes cooperation and focuses on a common goal, consequently avoiding potential conflictual topics such as group inequalities.

These distinctions between group needs due to status inequalities can be problematic. Indeed, studies stress the potentially detrimental effect of commonalities-focused positive intergroup encounters on developing an egalitarian system (Dixon & McKeown, 2021; Ron et al., 2017). Indeed, some evidence supports the idea of disengagement from collective action by minority/disadvantaged groups following intergroup contact with majority/advantaged groups. For example, a relationship was found between commonalities-focused interactions and reduced support for action for social change like the Black Lives Matter movement in United-States (Saguy et al., 2008) or increased legitimacy perceptions of hierarchical relations (Saguy & Chernyak-Hai, 2012). However, not all studies paint such a dark view of intergroup contact. Indeed, evidence also supports an increase in the endorsement of ingroup rights after intergroup interaction (Kauff et al., 2016).

Further, studies also highlight the moderating role of group status on the underlying mechanisms of intergroup contact. They revealed that intergroup emotion (e.g., intergroup anxiety, Binder et al., 2009), contact experience (Hayward et al., 2018), and perception (e.g., perception of hierarchy legitimacy, Saguy & Chernyak-Hai, 2012) are dependent on group status. For instance, Binder et al. (2009) found that extended contact was mediated by intergroup anxiety for the majority but not minority group members among native and non-native Belgium, German and

English students. If cross-group friendship was still correlated with reduced anxiety for minority group members, this was unrelated to reduced prejudice. One possible explanation is that minority members have reasons above anxiety to feel negatively about the future encounter. For example, previous negative experiences highlighting the inequalities between the disadvantaged and the advantaged group might not result in anxiety but rather a lack of satisfaction for disadvantaged group members. These results are coherent with Hayward et al. (2017)'s results, which show that Black American participants reported more negative contact experiences than Whites and Hispanics. They also indicated more negative contact experiences with Whites than with Hispanics. Using multilevel modelling on longitudinal data, Jugert et al. (2011) showed that perceiving their peers as supportive of cross-group friendship and seeing an increase in said support of the school year increased the engagement in cross-group friendship for Germans (majority) but not Turkish (minority) children.

Altogether, these experiments indicate that not only outcomes of contact but the entire contact experience (including engagement in various forms of intergroup contact, e.g., collective action) is conditional on group status and the relative power of groups involved, which should be considered.

The groups' history.

As we have seen, group status and their related power play a role in intergroup relations. However, status and power are not attributed at random. They depend on the group's history (Pratto & Stewart, 2020). Evidence suggests that history between groups, especially if conflictual, impacts intergroup relations (see Kauff et al., 2020, for a review). For instance, the history of conflict and subject of talks (i.e., Past vs present-oriented) between Polish and Jewish participants influenced their intergroup contact experience (Bilewicz, 2007). Indeed, contemporary issues discussion positively affected outgroup attitudes and feelings of similarity to the

outgroup. Similarly, the feeling of exclusive victimhood (i.e., "perceived distinctiveness of ingroup suffering in comparison to the adversary's experience" or in general, Vollhardt & Bilali, 2015, p.491) that can arise in some post-intergroup conflict settings sometimes lead to conspiracy beliefs and distance from the outgroup (Bilewicz et al., 2019).

Another account for the influence of the history between groups is the evidence of informal segregation that persists long after segregation laws are banned or in post-conflict settings. For instance, despite the end of the segregation law, a diverse population and a liberal reputation, the University of Cape Town (S.A.) saw its students sitting choices being dictated by their racial group membership (Tredoux et al., 2005). Similarly, studies have shown the limited use of shared public spaces in Northern Ireland even long after the 1998 peace agreement (Huck et al., 2019).

Finally, beyond group history, personal intergroup history has also been found to play a role in intergroup contact engagement. Indeed, studies show that personal history with outgroups, such as past contact experience, can influence engagement in new contact opportunities (Bagci et al., 2020b; Meleady & Forder, 2019; Turner et al., 2013). For instance, extended contact was found to mediate the relationship between one's attitude and intention to avoid the outgroup (Bagci et al., 2020b). Similarly, imagined contact was related to less desire to avoid the outgroup via reduced intergroup anxiety and increased outgroup trust (Turner et al., 2013).

Contact experience has also been found to influence the effect of other predictors of intergroup contacts, such as meta-perception and perception of the outgroup. For instance, indirect exposure to the outgroup has been demonstrated to impact behaviour such as support for foreign policies or openness to diplomacy by influencing the valence of meta-perception and perception of the outgroup (O'Brien et al., 2018).

In sum, traces of conflict, whether in talks or living habits, and personal history with the other group influence people's perceptions and behaviour. People's lack of

engagement with or active avoidance of the outgroup is more common in the case of a negative personal history or strong intergroup conflict history.

The similarity of the groups.

Intuitive beliefs would lead us to think that feeling similar to our ingroup or an outgroup will influence our behaviour and perceptions concerning intergroup contact. Social categorisation processes characterize intergroup contact, and one of the consequences of this social categorisation is the heightened perceived difference between groups (Tajfel, 1972). At the same time, individuals within one group are perceived as more similar.

Research revealed the importance of feeling similar to the ingroup in intergroup contact. For instance, Méndez et al. (2007) found that individual's feelings of prototypicality (i.e., being representative of their group) affected the degree to which they are influenced by meta-perceptions which in turn can influence intergroup contact engagement (as we discussed earlier on). More precisely, for high- (but not low) prototypical members, negative self meta-perception was associated with negative ingroup meta-perception and a higher desire to avoid the outgroup. The more similar they felt, the more meta-perceptions predicted intergroup contact-prejudice or contact-behaviour relationships, especially for negative meta-perceptions (Méndez et al., 2007).

But groups are more than simple categories in which individuals are classified; they are part of their identity (Tajfel, 1972, 1974). Beyond feeling to be a good representation of their group, one's ingroup identification also matters. Indeed, ingroup identification (i.e., the importance of ingroup membership) moderating role was evidenced during dual identity-electronic contact intervention with Muslim and Christian participants (White & Abu-Rayya, 2012) or when testing the impact of intergroup contact on forgiveness (Voci et al., 2015). Indeed the DIEC, a contact intervention in the form of a synchronous internet chat between Muslim and Catholic

students with a focus on both their religious identity and their common Australian identity, was particularly effective in reducing intergroup bias for participants with higher levels of ingroup identification (White & Abu-Rayya, 2012).

Finally, beyond perceiving outgroup members as similar to each other or feeling similar to the self, considering one's self-similar to the outgroup can also influence intergroup contact effects. The inclusion of the other in the self (IOS) has been highlighted as a reliable mediator of intergroup contact effect in the realm of prejudice reduction (Wright et al., 1997; Zhou et al., 2019). IOS refers to the inclusion in the self(-concept) of elements of another identity to the extent that this other becomes a part of the self, an effect facilitated by feelings of intimacy and similarity (Marinucci et al., 2020; Wright et al., 1997) with the outgroup member. In other words, considering some element of the outgroup identity as part of our identity mediates the relationship between direct contact and anxiety (Capozza et al., 2013) or extended contact and attitudes (Turner et al., 2008). For instance, friendship predicted more positive attitudes toward the outgroup via greater inclusion of the self. This is further related to contact engagement as IOS closely relates to self-expansion motives. As we have seen earlier, people engage in intergroup contact to fulfil different types of needs among which we found social connections or an increase of knowledge which can push individuals to form intergroup connections and include the other in the self (Paolini et al., 2016).

In sum, the felt distance between two groups, along with one's identification with their own groups, can influence intergroup contact effect and engagement.

The socio-cultural context and broader influences

Groups, independently of their characteristics, are anchored in a larger socio-cultural context which can influence intergroup contact between said groups. This socio-cultural context includes the mediatic and legal environments surrounding the groups. The following section reviews the effects of those two elements on

(engagement in) intergroup contact.

Mediatic environment.

The role of media in intergroup relations has long been discussed. In a review of the impact of mass media, Mutz and Goldman (2010) reveal a relationship between mass media depicting outgroup members (positively or negatively) and the increase or reduction of prejudice toward said outgroups. Research on vicarious contact (i.e., observation of successful cross-group interaction or positive outgroup depiction, Mazziotta et al., 2011) further supports this idea. Indeed, evidence is accumulating for the role of various media (e.g., Radio, documentary, news coverage, newspaper, or TV shows, see Vezzali & Stathi, 2020, for a review) as a form of contact helping to improve intergroup attitudes and relations. For instance, the media coverage of the 2012 Paralympic Games led to positive changes in attitudes toward disabled people (i.e., seen as more competent, Carew et al., 2019).

Overall, the role of media in intergroup relations is supported by the idea that they would provide information on the outgroup. Further, media characters, including fictional characters, are processed similarly to real-life individuals; consequently, positive exposure to the outgroup through the media will result in similar outcomes to interactions in real-life settings (Schiappa et al., 2005). Thus, watching television shows such as Queer Eye for the Straight Guy or Dress to Kill improved attitudes toward gay and trans people among a straight sample. Similarly, exposure to ingroup media impacted intergroup bias and competitiveness by increasing political identity, further demonstrating the role of the mediatic environment on one's attitudes and behaviour (Lin et al., 2020). This also supports the role of media in intergroup contact engagement as multiple studies have demonstrated the role of ingroup bias and identity in predicting said behaviour. As we have seen earlier identification to the ingroup along feelings of collective efficacy, support from the ingroup can influence intergroup bias and contact engagement. Because media can influence all of this it

seems logical that it can influence intergroup contact engagement.

However, all media are not equal. Among others, Visintin et al. (2017) suggest distinguishing between the effects of different media types, especially news vs entertainment media. Indeed, newspapers seem to relate to more negative prejudice. At the same time, TV shows hold more positive results as they propose less prejudiced views (i.e., positive and personalised characterisation of the outgroup, Visintin et al., 2017).

Whilst a full account of the social and media environment surrounding groups is not possible in this thesis, we still will attempt to consider this, as there is significant evidence that the media environment influences individuals' perceptions of their own group and other groups.

Legal and environment.

Related to the groups concerned is the social environment they immerse themselves in. This broader context goes beyond one's personal experience and can encompass elements such as the authorities, institutions, the legal system and even broader culture. While discussing and considering all these elements is beyond the scope of any piece of work, we believe it is important to discuss the impact authorities and the legal system can have on specific groups.

Indeed, as early as Allport et al. (1954) intergroup contact hypothesis, authority support has been considered for its role in said intergroup contact. Institutional support is critical to getting the best out of intergroup interaction. Evidence accounts for the effect of policies and laws on intergroup contact effects and engagement. For instance, inclusive (Green et al., 2020) or pro-diversity (Guimond et al., 2013) policies have been shown to influence intergroup relations by shaping intergroup contact frequency and perception of threats or by reducing prejudice. Similarly, multiple studies illustrate the decline in anti-gay bias or increase in positive attitudes toward same-sex marriage following changes in the legislation and

support from authorities (Ofosu et al., 2019; Tankard & Paluck, 2017) toward said rights (e.g., wedding).

Authority figures' discourse further participates in this effect of the legal system by shaping people's feeling of legitimacy of those legal components. For instance, Trump's 2016 campaign changed individuals' perception of prejudice expression acceptability (Crandall et al., 2018). Indeed, it made expressing prejudice toward various non-political groups (e.g., groups based on race, disability, gender, and sexual orientation) more acceptable. Discourse by authorities necessarily influences attitudes and perceptions through reporting and discussing in the media environment (see above for a discussion of media impact), and evidence accounts for the role of elites in emboldening prejudiced expression and behaviour (Newman et al., 2021). This sends us back to Allport et al. (1954) initial conditions that suggested the role of authority, here under the expression of a leader figure discourse and is further supported by the role of social norms on contact engagement. Indeed, as we have seen before social norms have a powerful impact on behaviour and a strong relationship with intergroup contact. They can predict engagement in it. Thus, authority figures' discourse such as Trump's discourse can predict contact engagement because they change said norms. For instance, by changing the views on prejudice toward specific groups he set the tone regarding the place of said groups in society and the relationship one should have with them.

To summarise, evidence highlights the difference in intergroup contact effects depending on the group characteristics (e.g., type of group, group status, history and feeling of similarity between and within groups) and the socio-cultural context (e.g., media and law). It encourages researchers to consider this element's impact when exploring contact engagement predictors.

Aims of the thesis

Summary of the literature

From watching the news, one can see constant highlights of intergroup conflict. From the tension rising between political groups worldwide (e.g., protest in France) to the recurrence of social protests fighting for intergroup equity (Black lives matter, MeToo), intergroup conflict is still present if not on the rise. Understanding intergroup relations and how to promote social cohesion in divided societies is thus a pressing challenge. For over 70 years, (positive) intergroup contact has been recognised as a robust solution. Decades of research on the topic and multiple meta-analyses support the idea that positive intergroup contact between members of two distinct social groups can reduce prejudice between members of said groups, improve engagement in collective action and even shape cognition. These effects are found both in the lab and in the field (Lemmer et al., 2015) and concern a variety of groups (e.g., between groups based on disability, Carew et al., 2019; sexual orientation, Schiappa et al., 2005; ethnicity, Visintin et al., 2017; origin, Vezzali & Stathi, 2020; partisanship, Crandall et al., 2018), including groups immersed in highly conflictual situations (conflict, post-conflict, peace; such as between Catholics and Protestants in Northern Ireland, Paolini et al., 2004; or between Cypriots and Greeks, Husnu et al., 2018). So why, despite more diverse societies, are we not benefiting more from positive intergroup contact effects in everyday life?

One explanation for this lack of impact is that, even when given the choice and opportunity for it, people still often avoid intergroup encounters leading scholars to a new question: what makes people engage in intergroup contact? In other words, we need a robust understanding of when, how and why people engage in intergroup

contact and how we can influence this to promote positive intergroup contact and its beneficial effects. This problem is sometimes referred to as "leading the horse to the water" of contact (Pettigrew et al., 2011, p.168).

This thesis anchors itself in this new wave of research and aims to understand factors predicting engagement in intergroup contact. The critical review of the literature presented in Chapter 1 has highlighted the role of different predictors of intergroup contact engagement, especially the effect of perceptions (i.e., meta-perceptions and perceptions of the outgroup), social norms and intergroup context.

Meta-perception and perception of the outgroup

People almost always take into consideration what other people think. How we see ourselves, our social groups, and other people is necessarily shaped and influenced by the opinions and actions of others. Even the imagined attitudes or beliefs of other people influence how we think and behave. Imagine two scholars from the same university. One conducts research in social psychology, and the other one in biology. The social psychologist might think the biologist sees them (personally or psychologists in general) as less competent, doing unreliable science. Such beliefs could come from previous interactions with biologists or simply things they have read or heard from others. Meanwhile, the biologist might think they are perceived as prejudiced towards social sciences or too strict in how they conduct research. With these beliefs, even in universities that provide strong interdisciplinary norms regarding research and communication, they will probably avoid each other - at least in terms of research communication or collaboration - and therefore miss opportunities to learn from each other.

These beliefs are called meta-perception (i.e., beliefs held by someone about how outgroup members perceive them/or their group) and are reliable predictors of intergroup contact engagement. Evidence accounts for the role of different types of meta-perception (e.g., Meta-perception of personality traits, dehumanisation, prej-

udice) on various intergroup behaviours (e.g., response to threats, Pauketat et al., 2020; delinquency, Issmer et al., 2013; intergroup help-seeking behaviour Borinca et al., 2021), including contact engagement (Borinca et al., 2021; Fowler & Gasiorek, 2020; MacInnis & Hodson, 2012; Moore-Berg et al., 2020a; Quesnel, 2020). For example, participants' meta-humanisation (i.e., beliefs the outgroup perceived us as human) increased acceptance of outgroup help and contact intention in two contexts (i.e., Kosovo and North Macedonia; Borinca et al., 2021, p.2). Studies have demonstrated that both self and group meta-perception have an effect, and some studies focusing on both suggest that not only do they have different effects, but that self meta-perception is a stronger predictor (Fowler & Gasiorek, 2020; MacInnis & Hodson, 2012).

Finally, multiple studies have highlighted that the effect of meta-perception was mediated by perception of the outgroup (i.e., one's beliefs, perceptions or attitudes about others or an outgroup in general). For instance, meta-dehumanisation has been demonstrated to influence islamophobia levels (Pavetich & Stathi, 2021) or outgroup aggression behaviour (Kteily & Hodson, 2016) through increased outgroup dehumanisation. Evidence also accounts for the role of the perception of the outgroup as a predictor of intergroup contact on its own. For instance, perception of the outgroup was found to influence outgroup aggression behaviour (Kteily & Hodson, 2016) and support for aggressive foreign policies (O'Brien et al., 2018).

Overall, evidence accounts for the effect of meta-perception and perception of the outgroup on intergroup contact engagement but lacks to provide the broader picture (i.e., link to other predictors, the effect of context, and clear distinction between self and group meta-perception effect).

Norms

Another predictor of intergroup contact engagement is social norms. Social norms and their impact on behaviour have been extensively investigated, and stud-

ies found evidence of norms as predictors of intergroup behaviours (from health to climate change), including intergroup contact engagement. For instance, positive ingroup descriptive norms (i.e., ingroup intergroup contact level) predicted White British people's intention to engage in contact with immigrants (Meleady, 2021). Multiple studies have demonstrated that intergroup contact, friendship, or diversity norms increase the intention to interact with the outgroup. Further, it appears that not only ingroup norms (i.e., norms transmitted by/in work in the ingroup) but also outgroup norms (i.e., norms present in the outgroup) can have an effect. Indeed, outgroup contact norms were found to be a stronger predictor of the impact of extended contact on future contact engagement (Cameron et al., 2011), supporting the idea that perceiving the outgroup as open for contact will influence one's behaviour. Similarly to meta-perception, studies demonstrate the role of social norms in intergroup contact engagement but do not provide the broader picture.

Indeed, some studies suggest that meta-perception, social norms, and their effects on intergroup contact engagement might be related, but the evidence is lacking. According to Vauclair et al. (2016), meta-perception, and by extension, perception of the outgroup, is part of the normative climate. More precisely, one's perceptions of/in an intergroup context will inform and enrich said (normative) intergroup context. For instance, one's perceptions (meta-perception and perception of the outgroup – e.g., they think that we are sociable) can shape their perception of social norms (ingroup and outgroup – e.g. it suggests they are supportive of intergroup contact), which could in turn increase intergroup contact engagement (e.g., if they support intergroup contact then maybe I should engage in it myself). In sum, studies seem to provide evidence of the effect of perception and norms on contact engagement, but further studies are needed to establish if these effects are related.

The intergroup context

Another predictor of intergroup contact is the intergroup context. Studies have demonstrated that group membership characteristics (i.e., type, status, history) and the socio-cultural context (i.e., media, law) impact factors which influence intergroup contact themselves (Bilewicz, 2007; Green et al., 2020; Ron et al., 2017; Saguy et al., 2008; Seger et al., 2017; Turner et al., 2013; Wright et al., 1997). We propose that one's engagement in intergroup contact will depend on the context individuals are immersed. We define the intergroup context as the elements surrounding or influencing the behaviour of two groups, including factors such as the ones' group membership (e.g., type of group, group status), the degree of identification to said group, the distance perceived and history with the outgroup concerned. We believe that, even if provided with equal intergroup contact opportunities, the reasons behind engagement for groups based on attitudes (e.g., political parties) will be different than for groups based on race. We also believe differences will exist within one context based on group history and status (e.g., between White/advantaged and Black/disadvantaged groups). Ultimately, we believe one's perception of or in said context (e.g., meta-perception) will influence their engagement and is anchored in this specific intergroup context.

Limits of the intergroup contact literature

Much of the previous research in this area has failed to address the single-factor fallacy. This issue arises when most studies focus on one factor or fail to include critical variables. Evidence accounting for the role of meta-perception, perception of the outgroup and social norms has often focused on one or two factors. More studies are needed to understand the specific role of self vs group meta-perception or ingroup vs outgroup norms. Similarly, despite evidence suggesting perceptions inform norms, very little is known about this relationship and possible combined effects. Further, studies fail to draw the broader picture and consider the influence

of intergroup context. Yet, in our review, we have established the role of intergroup contexts in intergroup contact engagement, showing that what holds true in one specific context might not be true in another.

The thesis project

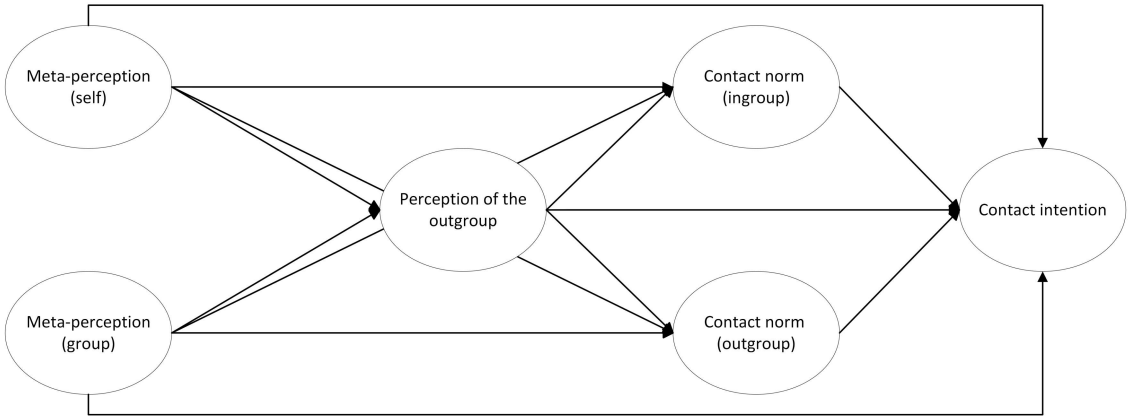
In response to these issues, we proposed the Perception-norm model (see figure 1) in which we posit that one's perception (self and group meta-perception -> perception of the outgroup) will inform their perception of (ingroup and outgroup) contact norms, which will, in turn, influence their desire to engage in intergroup contact[1]. We further posit that this will differ depending on the intergroup context in which people are immersed. With this model, we try to draw a bigger picture by systematically distinguishing between close concepts (e.g., self vs group meta-perception, ingroup vs outgroup norms) and explore the relationship or possible combined effects of those factors on intergroup contact engagement in specific intergroup contexts. We had no clear expectations regarding how the context will influence those variables in particular. But we expect to observe differences between groups within one context (e.g., Black and White) due to status inequalities. Similarly, we expect to observe differences between pre- and post-election political contexts due to broader social and mediatic context changes.

Building on these ideas, we developed a research project. We started with an explorative study investigating people's evaluation of factors influencing intergroup contact engagement. We then conduct use correlational data to test our Perception-norm model. Finally, we conducted two experiments providing further evidence of the effects of those factors.

[1]This pathway is based on Vauclair et al. (2016) idea that meta-perception, and consequently the perception of the outgroup, inform one's perception of the normative concept. However, we acknowledge the existence of other or reverse pathways. One alternative pathway is presented in Appendix F. In study 2, a comparative analysis of the two pathways revealed that our initial model obtained a better model fit, suggesting choosing the model over the alternative.

Figure 1

Perception-norm model - Theoretical diagram



People's beliefs

Reflection on the measurement of contact and lack of understanding of people's perception of contact (Brown & Hewstone, 2005; Keil & Koschate, 2020) has highlighted that "how contact is conceptualised by those involved has rarely been examined" (Keil & Koschate, 2020, p.965), yet researchers and lay people's definition of intergroup contact is different (e.g., laypeople included less negative or online contact in their definition). Understanding how people perceive contact is essential to make sense of the underlying processes and to design effective interventions. Our first study was built on a similar reflection and aimed to highlight people's genuine belief regarding intergroup contact engagement, particularly their evaluation of the role of perception and norms in intergroup contact engagement. In other words, with this study, we hope to gain insight into people's meta-cognition regarding contact: can people reflect on intergroup behaviour? If so, what comes from that reflection? How do they perceive intergroup contact engagement? To do so, we designed a study where participants evaluated intergroup contact scenarios. Each scenario presented either a direct or indirect contact situation where a character (i.e., either White British or East Asian) engages with or avoids another character (i.e., either White British or East Asian).

We also aim to gain interesting insights into the relationship between White British and East-Asian people. According to the British Council, East-Asian students represent over half of all new non-EU international enrolments at UK HEIs in the 2018/19 academic year, understanding how home (e.g., British) and international students (e.g., East Asian) interact and their perception of intergroup contact engagement is essential to inform Universities integration and diversity policies. Altogether, these results should provide interesting information that might help us understand better future results regarding this topic and offer some new understanding regarding intergroup contact engagement in UK universities' intergroup context.

The Perception-norm model

The following studies build on the results from our first study highlighting the role of self meta-perception and our conclusion from our literature review.

Chapter 3: a test of the Perception-norm model.

Using structural equation modelling, Chapter 3 tests the Perception-norm model by analysing the combined effect of meta-perception, perceptions of the outgroup and contact norms and contact intention in two intergroup contexts: 1) U.S. political context (a – pre-election; b – post-election; i.e., same context but a change of power); 2) U.S. racial context (with Blacks and Whites).

The three studies presented in Chapter 3 used self-reported data. Self-reported data are widely used in the intergroup contact literature (81% of the studies, Paluck et al., 2019). This method allows us quick access to data and a large sample size perfect for exploring new theories. Despite limitations (e.g., social desirability, recall bias, acquiescent and extreme responding), self-reported data are reliable and match results obtained with other methods (Sharp et al., 2010). On the other hand, structural equation modelling allows us to easily analyse complex relationships between

theoretical constructs (i.e., latent variables) and between said construct and their observed indicators (i.e., manifest variables). Altogether, using SEM on self-reported data will allow us to test the Perception-norm model and better understand the possible relationship between perceptions, norms and contact intention in different contexts.

Chapter 4: experimental evidence of the role of perception and norms on actual contact engagement.

While self-reported data are a suitable method for exploration, we acknowledge its limits and recognise that it misses essential points regarding real-life effects and causality. As we have mentioned, most research on intergroup contact used self-reported measures, yet other techniques exist. O'Donnell et al. (2021) extensively reviews some of these methods, including intensive repeated measures (e.g., Daily diary, GPS tracking), virtual reality, and press-based information analysis. For instance, using novel techniques such as GPS movement, data revealed limited use of public spaces in North Belfast, illustrating the informal segregation happening despite the peace agreement of 19998 (Dixon et al., 2019). Longitudinal measures of cross-group friendship showed a higher number of outgroup friends after an extended contact intervention (Vezzali et al., 2015b). Finally, after manipulating meta-perception (MacInnis & Hodson, 2012) or Norms (Meleady, 2021) negatively, scholars found more immediate avoidance of the outgroup. Participants rejected more outgroup members than ingroup members during an intergroup opportunity task (i.e., a proposition to interact with another participant). Despite some examples and the existence of different techniques, the number of studies providing an experimental test of intergroup contact or at least measures of actual (vs intentional) contact is limited. Building on results from previous chapters, Chapter 4 tries to fill this gap by testing the effect of manipulated meta-perception on actual intergroup contact.

Based on the above observations, we decided to build two experiments in which we: 1) explore the impact of social media on perception; 2) see the effects of such manipulation on people's actual engagement with outgroup members (above and beyond contact intention); 3) explore further the role of meta-perception, perception of the outgroup and intergroup contact norms in intergroup contact engagement (i.e., intentional and actual). Further, those two experiments explore two intergroup contexts (a- U.S. political context; b- U.S. racial context). To do so, we will use a fake social media post to manipulate participants' perceptions (i.e., positive, negative, control). We will then ask Participants (1a: Democrats and Republicans; 1b: Blacks and Whites) to choose between two ingroup and two outgroup partners. The literature on manipulating meta-perception highlights two main trends: 1) asking participants to list meta-perceptions, 2) presenting an article providing insight into outgroup perception of the ingroup (i.e., Meta-perceptions). We chose the second option as it was the best option for an online study and helped us explore the impact of one-time media exposure on ingroup and outgroup perceptions fitting perfectly in our aim to take the intergroup context into account (including media) and to provide evidence closer to real-life experience. Second, we choose to propose a contact opportunity to our participants following a similar procedure to MacInnis and Hodson (2012) or Meleady (2021) as it provides a quick and easy test of actual (rather than intentional) contact. Other, more advanced techniques could have been considered but were put aside due to this project's time and budget limit.

Overall, these two studies explore the impact of media representation and perception manipulation on engagement in "actual" (or real) contact opportunities. Ultimately it should provide evidence to support future research and provide a practical indication for policymakers and practitioners regarding potential interventions to implement.

The two contexts selected: the political and racial context in the U.S..

While the first explorative study focused on the intergroup context between White British and East Asians, the following studies will focus on two intergroup contexts.

First, we decided to focus on the racial context in the U.S. by collecting data from people identifying as either Black or White. Over the decades of research on intergroup contact, the ethnic and racial divide has been one of the most studied intergroup contexts and for good reasons (Paluck et al., 2019). The racial context, especially between Black and White people in the U.S., provides a unique intergroup context marked by a strong history of conflict and inequalities. We decided to focus on this intergroup context for this specific reason: Black and White people in the U.S. are members of groups with very different statuses. This intergroup context clearly distinguishes between advantaged (i.e., the majority) and disadvantaged (i.e., the minority) groups.

Further, unlike other groups, racial membership is a social construct based on arbitrary characteristics such as physical traits (e.g., skin colour) without scientific or biological meaning (Flanagin et al., 2021b). Consequently, people do not choose to be Black or White, albeit the group's identification levels can vary. It is a visible membership as the group membership is mainly based on physical traits (e.g., skin colour). It is directly observable.

Finally, it was a timely, appropriate choice. With recent recurrences of social movements such as BLM protests fighting power inequalities built over historical inequalities (e.g., segregation law, slavery) and systemic racism that arose from it, understanding how to promote social cohesion and equity between those groups is a timely, relevant challenge. In summary, we decided to test the Perception-norm model in the U.S. racial context by collecting data from Black and White people because of these groups' characteristics (i.e., group type, status, group boundaries salience) and the societal relevance of understanding the relationship between those

groups.

Second, we choose to explore our model in the U.S. political context by collecting a sample of Democrats and Republicans following a similar thought process to the racial U.S. context. First, we took into consideration the characteristics of the groups concerned. Indeed, political affiliation is a choice based on attitudes. One can easily change their group membership if desired, yet group identification is often strong. Second, because it is a membership that is not directly visible, one needs to talk about their political view for others to know their group membership. Third, there is no general advantage vs disadvantage or majority vs minority dynamic as can exist in other intergroup contexts (e.g., with racial or religious groups). Indeed, in the case of political affiliation, the power is mostly held by the group elected and shifts *easily* across the years. Finally, we considered the time relevance of the choice. When we were designing our second study, the presidential election in the U.S. was approaching, creating a climate where tensions between the two groups were heightened. It also allowed us to have a comparison point a few months later when the climate had changed (i.e., power had changed hands, tensions, and media representation had shifted back to an everyday life level). In summary, we decided to explore our model in the U.S. political context by collecting data from Democrats and Republicans because of these groups' characteristics (i.e., group type, status, group boundaries salience) and the societal relevance of understanding the relations between those groups.

Conclusion

Overall, positive intergroup contact appears as a good solution to reduce prejudice and intergroup divide and promote social equity. However, people's lack of engagement in said intergroup contact limits the real-life effects of this solution. With an increase in intergroup divide and opinion polarisation, understanding when, why and how people engage in intergroup contact has become a pressing

challenge. This thesis anchors itself in a new wave of research to answer these questions. It focuses on two predictors of intergroup contact engagement: perceptions (i.e., meta-perceptions, perceptions of the outgroup) and norms. This thesis aims to understand the relationship between perceptions and norms in predicting intergroup contact engagement in different contexts. We start by exploring people's genuine beliefs regarding intergroup contact engagement. Then we test a model in which meta-perception (self and group) predicts contact intention via the perception of the outgroup and contact norms. We test the Perception-norm model in two intergroup contexts: U.S. political intergroup context (pre- and post-election) and racial U.S. context. After that, we test the effect of meta-perception valence on actual intergroup contact engagement in the same two contexts. Finally, we will discuss the implications of our results.

Part 2

Understanding people's belief

Chapter 2

Understanding people's belief about intergroup contact engagement

Overview

This first empirical chapter aims to understand people's naive beliefs about predictors of engagement in intergroup contact. In the following chapter, we present Study 1, a correlational study in which participants evaluate their and others' behaviour in different intergroup contact scenarios. We will first provide a summary of research on predictors of intergroup contact relevant to this study, including the factors we will focus on in Study 1: prejudice (individual and group level), meta-perception (individual and group level) and perception of the outgroup (individual and group level), norms (media and friends), similarity vs difference and group status. After providing information on the method used, we will review the results and their implications. Particularly, we will discuss the role of self meta-perception and feelings of similarity, both evaluated as the most important factors across situations and the surprisingly low level of importance attributed to the perception of the outgroup.

Introduction

As discussed in the previous chapter, intergroup contact reduces prejudice in various situations (Pettigrew & Tropp, 2008). However, people do not always engage in contact opportunities (Kauff et al., 2020; Paolini et al., 2018; Ron et al., 2017).

Researchers have operationalised contact in various ways as the field has grown more complex. Intergroup contact has evolved from a simple face-to-face interaction to a broader definition incorporating more complex and indirect forms of interaction. However, how the general population understands intergroup contact is a question that has received less attention.

The empirical part of this thesis begins with this question, as understanding people's perceptions of contact behaviour may relate to their willingness or unwillingness to engage in positive contact with others. Asking people their perceptions of others in a contact scenario - what are they thinking, why the characters are behaving in certain ways - will help to inform our model, which will attempt to examine the factors as to why people might choose to engage or disengage from contact. Additionally, a stronger understanding of people's naïve beliefs about contact will be beneficial when considering how to talk about intergroup contact with a wider audience and help maximise intergroup contact interventions' effectiveness.

Study 1

The present study considers the above observations and takes a new perspective on intergroup contact predictors. Indeed, it aims at understanding people's naive belief about intergroup contact predictors by investigating people's evaluation of predictors identified in the literature and their impact on fictional characters' engagement in or avoidance of intergroup contact. In other words, with this study, we hope to gain insight into people's meta-cognition regarding contact: can people reflect on intergroup behaviour, and if so, what comes from that reflection? How do they perceive intergroup contact engagement and the major factors that might motivate such engagement, as identified in Chapter 1.

Understanding people's beliefs regarding intergroup contact is important for multiple reasons. As we discussed in Chapter 1, this is a topic that has been deeply overlooked in the literature. Yet, recent evidence points to the difference between

lay people and scholars in terms of conception and definition of intergroup contact (Keil & Koschate, 2020). Understanding how individuals think about intergroup contact is not only interesting but also important as it can inform intervention development. Studies on prejudice or cross-race effect reduction using anti-bias training or Perceptual-cognitive approaches have shown to be effective (Case, 2007). For instance, a meta-analysis looking at the effect of anti-bias training shows that it can provide significant, moderate effects, supporting its role in meaningful changes in outgroup attitudes among children. In other words, teaching children about their unconscious bias was an effective way of reducing said bias. Similar effects were found regarding the cross-race effect. When participants were made aware of said recognition bias their performances in terms of recognition of outgroup faces were improved (Hugenberg et al., 2007).

Overall, learning about our unconscious bias is a way to reduce said bias. It seems logical that this could apply to engagement in intergroup contact. If people learn about the bias behind their lack of engagement, they might overcome said lack of engagement. For instance, as we have seen in Chapter 1, meta-perception can be inaccurate. More precisely, people tend to believe they are seen more negatively by the outgroup than they really are. If people were aware of this limit, then maybe they would be able to regulate these negative tendencies. We could thus consider designing an intervention whose purpose would be to highlight this issue to laypeople. However, to build such an intervention, we first need to know more about not only the factors that influence people's behaviour (e.g., theoretical knowledge about meta-inaccuracy) but also about what laypeople know on the subject (e.g., do they know about meta-perception?). This study focuses on the latter issue.

In this study, participants were asked to read and respond to two contact scenarios in which one individual asks for a favour from another. This replicates a common social interaction and would be considered an intergroup contact encounter when the individuals are from different groups. In broad terms, participants rated

their perception of the character's motivations and feelings.

Additionally, we measured the importance people gave to different factors identified from the literature: prejudice (individual and group level), meta-perception (individual and group level) and perception of the outgroup (individual and group level), norms (media and friends), similarity vs difference and group status. Indeed, meta-perception, beliefs held by an individual about how they (self meta-perception) or their group's (group meta-perception) personal attributes are being perceived by others), have been found to influence engagement in intergroup contact (Adra et al., 2020; O'Brien et al., 2018). Studies also demonstrated that the perception of the outgroup (beliefs one holds about the outgroup) mediates the relationship between meta-perception and contact intention (Kteily & Hodson, 2016; Pavetich & Stathi, 2021). Further, beyond an individual's general perception of the outgroup, their level of prejudice toward said outgroup has also been demonstrated to influence intergroup contact (Munniksma et al., 2013). In other words, meta-perception (i.e., how one generally thinks he is perceived), perception of the outgroup (i.e., how one generally perceives the outgroup) and prejudice (i.e., specific dimension of one perception of the outgroup, often a negative stereotype shared among the ingroup) are said to influence intergroup contact engagement (see Chapter 1 and Chapter 3 for more details about these specific concepts). Beyond individual perception, norms (i.e., "expectation about appropriate behaviours that occur in a group" McDonald & Crandall, 2015, p.1) have also been found to influence intergroup behaviour, such as engagement in intergroup contact (Meleady, 2021; Park et al., 2020). Finally, the general intergroup context has been found to impact different aspects of intergroup contact considerably. For instance, evidence has demonstrated that groups of different statuses have different expectations and experiences of contact (Ron et al., 2017). Similarly, the history between the groups and individuals' personal history with the outgroup have both been found to influence contact engagement (Bilewicz, 2007; Bruneau et al., 2021; Kauff et al., 2020). Finally, feeling similarity within and

between groups has also been found to influence intergroup contact. For instance, feeling similar to the outgroup favours the inclusion of the other in the self-facilitate contact effect. Feeling similar to other ingroup members was found to influence the effect of meta-perception and consequently contact intention. In sum, all these factors can influence intergroup contact. Consequently, it seems important to see what people think about those factors.

In the scenario, we manipulated the ethnicity of the scenario characters (i.e., White British vs East-Asian origins) and whether a contact request was accepted or refused. Overall, those scenario covers various intergroup contexts, including the simulation of avoidance vs engagement in contact.

It is entirely possible that people's beliefs about the importance of these factors may not line up with some of the actual effects shown in the literature. However it will serve as a window to how people consider the motivations of others in a contact scenario, including possibly how they see the motivations of others they might have contact with.

We expect to find a difference in the evaluation of factors' importance. Additionally, we expect some difference in the factors' evaluation depending on the situation (e.g. Accepted vs rejected) and individual differences. However, due to the lack of studies comparing the effects of these factors and studies focusing on individuals' perspectives, we have no clear expectation regarding which factor will be considered the most important.

Method

Participants

White British undergraduate students[2] were recruited via the University of East Anglia's online database (SONA) in exchange for course credit. A total of 206 participants were recruited during the first data collection from 7 February 2020 to 31 March 2020. 63 participants were excluded as they either identified themselves as

belonging to a different ethnic group (N=45), asked for their data to be withdrawn (N=3) or did not fully complete the study (N=15).

A power analysis was conducted in G*Power (Faul et al., 2007) to determine the sample sizes necessary for the study. ANOVA repeated measures, between factors with 11 groups and four measurements were selected. Assuming an effect size of d=.20 and a power of 80%, a minimum sample size of 264 was recommended.

To increase statistical power, another 232 participants were recruited between 2nd February 2021 and March 29th 2021 when a new group of participants was available. 69 participants were excluded for either: asking for their data to be withdrawn (N=4), not fully completing the study (N=8), not identifying themselves as White British (N=57) or taking part in the first experiment (N=0).

The final sample consisted of 306 White British participants (86% Female, 13% Male, 0.01% Other/Non-binary/Prefer not to say) aged between 18 and 41 (M= 19.75, SD= 2.69).

The sample resulted in a minimum of 153 participants in each condition (Engagement * Type of Contact * Interaction).

Ethics

The PSY S-REC – UEA School of Psychology Research Ethics Subcommittee approved the project on February 07th 2020 (reference: 2020-1034-001994). The study was advertised through SONA (convenience sample), and participants were compensated in school credits for their time in this 10-minute study.

[2]As discussed in Chapter 1, contact experiences can differ depending on the group status and relative power (Ron et al., 2017). Initially, we attempted to compare East Asian and White British participants. In our first and second data collection, only 20 participants indicated being of East Asian Origins (our second target group). We attempted to recruit more participants via different outlets (e.g., contact in other faculties or student societies). Participants were proposed to participate in the study in exchange for entering a lottery, with one out of every 20 participants receiving a £20 gift card from Love2shop. Unfortunately, we did not manage to increase our East Asian sample size. Consequently, all analyses presented in this paper are based only on our White British sample's data.

Procedure and material

Participants were offered to participate in a survey on the perception of social interactions. They received information on their rights, the duration (around 15 minutes) and the general content of the survey.

Demographics. Participants answered a few questions about themselves, including age, gender and ethnicity.

Part 1: Open question.

Before evaluating the interaction scenario (see the description below), participants took part in another study not reported here. In this study, participants were asked to describe their experience with an ingroup or an outgroup member. After their initial description of the situation, participants were asked to answer a few questions designed to help them complete their story[3].

Part 2: Scenarios.

The current study explored *if* and *how* people evaluate others' behaviours when they face an intergroup contact opportunity. To do so, participants were presented two scenarios depicting a potential direct (i.e. at the train station) or indirect (i.e. on an online chat) contact opportunity between two characters. Examples of scenarios:

> **Indirect - Accepted:** "Imagine you are in the What's App group of one of your lectures. You see that one of your fellow students, Ai, is connected and gives information about some of the notes and information from the last lecture. Suddenly, Olivia appears in the chat. Olivia

[3]We conducted a linear mixed effect model with the condition open question study (i.e. description of an ingroup vs cross-group contact experience) as a fixed effect to ensure this task had not impacted our results.) The type of experience (ingroup vs cross-group) participants were asked to recall did not significantly interact with the factor type regarding their impact on the perceived importance of said factors (likelihood ratio test of null vs full model comparison: ($\chi^2(351)=1550$, $p < .001$), $\eta\rho^2 = .01$, 95% CI [.00, .04]). In other words, this first study did not influence our results. See Appendix D for model results.

explained she missed the last lecture and asked to talk to Ai in private about the lecture's content. Ai accepted. Why do you think Ai accepted Olivia's request to talk in private?"

Figure 2

Example of pictures included with the scenario to represent scenario characters

Direct - Rejected: "Imagine you are at your local train station. In front of you, there is Bo sitting on a bench, reading, while apparently waiting for his train. Suddenly, Harry appears in front of Bo and startles him. Harry explained that his phone just ran out of batteries and that he needed to call a friend to tell him that his train had been delayed. He asks Bo, his phone. Bo refuses. Why do you think Bo would have refused to share her phone?"

Figure 3

Example of pictures included with the scenario to represent scenario characters

Scenarios varied in terms of the ethnicity of the seeker and the responder (i.e. White British or East Asian origins), whether the contact was direct or indirect, as well as the acceptance or rejection of the contact situation.

Table 1

Table of all possible scenario combinations

Scenario characters (interaction type)		**Engagement vs avoidance**			
		Acceptance		**Rejection**	
		Forms of contact			
Character 1	**Character 2**	**Direct**	**Indirect**	**Direct**	**Indirect**
White British	White British				
East-Asian	East-Asian				
White British	East-Asian				
East-Asian	White British				

To prevent any presentation effect, scenarios were counterbalanced. To ease the reading and recall of the scenarios and increase their naturalistic effect, characters in the scenarios were attributed names based on the most common names for White British and East-Asian people and pictures[4]. Gender in the scenario matches the gender indicated by the participants.

The experiment used an 11 (Factor type, see Table 2) * two (Engagement: acceptance vs rejection of the contact) * two (Forms of contact: direct vs indirect contact) * four (Type of interaction: ingroup-ingroup, ingroup-outgroup, outgroup-ingroup, outgroup-outgroup) mixed design. Engagement, forms of contact and factor type were within-subject variables. Factor type consisted of participant ranking of each of the 11 factors regarding their importance in intergroup contact engagement. Participants saw both a scenario with engagement and rejection of the contact opportunity, as well as with both a direct and an indirect contact opportunity. The type of interactions depended on the scenario presented to the participants as participants took part in two out of four conditions (e.g., ingroup-ingroup and outgroup-ingroup but not ingroup-outgroup and outgroup-outgroup). This led to

[4]Stimulus images courtesy of Michael J. Tarr, Center for the Neural Basis of Cognition and Department of Psychology, Carnegie Mellon University, http:// www.tarrlab.org/. Funding provided by NSF award 0339122.

16 possible combinations (see Table 1 with a minimum of 153 participants for each combination.

General questions. Once they had read the scenario, participants answered questions about the reasons behind the scenario characters' engagement in or avoidance of the contact opportunity. Questions focused on the scenario characters' feelings, first impressions or expectations regarding future interactions. For instance, feelings of threat and emotions (e.g. How much do you think that each of these feelings might have influenced Ai's behaviour? Anxiety; Empathy; Feeling of threat; Excitement; Anger; Disgust) were measured on a 0 to 100 scale. See Appendix C for detailed items. This work focuses on the influence of meta-perception (self and group), perception of the outgroup, norms and past contact experience on contact intention. Consequently, these items were not included in the analysis presented below.

List of factors. Then, they were presented with the list of 11 factors selected from the literature and asked for their perspective on those factors (i.e., are they important for contact engagement). Factors were measured on scales from 1 (very negative/not at all relevant-important) to 7 (very positive/very relevant-important).

Individual differences. Finally, participants completed the below measures before accessing a small debrief with more information about the study's aims and being offered a last withdrawal chance.

Intergroup attitudes. Participants' attitudes toward ingroup and outgroup were assessed using the feeling thermometer (Converse et al., 1980) and a short version of the general evaluation scale (Swart et al., 2011). Those measures of attitudes have proven their validity and reliability across multiple studies and with various groups.

For the feeling thermometers, participants were asked to indicate their overall feelings towards their own group or the outgroup on a 100-point scale (i.e. The

Table 2

List of the 11-factor types (i.e., factors identified in the literature) and their corresponding items.

Factor type	Meaning
Meta-perception (self)	What the receiver thinks the seeker thinks of the receiver.
Meta-perception (group)	What the receiver thinks the seeker thinks of the receiver's group.
Perception of the outgroup (self)	What the receiver thinks of the seeker.
Perception of the outgroup (group)	What the receiver thinks of the seeker's group.
Norms (media)	Norms transmitted by media regarding the seeker's group.
Norms (friendship)	Norms transmitted by friends regarding the seeker's group.
Prejudice (self)	Peceiver's prejudice toward the seeker (in particular).
Prejudice (group)	Peceiver's prejudice toward the seeker's group.
Similarity	How similar receivers think they are to seekers.
Difference	How different receiver think they are from seeker.
Group status	The fact that receiver and seeker belong to the same or to different groups.

Note. Receiver refers to the scenario character being proposed the contact opportunity. Seeker refers to the scenario character offering the contact opportunity.

thermometer), with zero (very cold) to 100 (very warm). The scale was reverse-coded such that higher values indicate higher levels of prejudice.

The short general evaluation scale was presented on a seven-point scale. Participants' answers to all four semantic-differential items (i.e. Negative-Positive, Hostile-Friendly, Suspicious-Trusting, Contempt-Respect) were converted into an average score of attitudes toward White British (Cronbach's α =.86) and East Asian (Cronbach's α =.87) people.

Past contact experiences. To assess participants' past contact experiences, we used single-item for contact valence (Barlow et al., 2012). This measure offers the opportunity to treat positive and negative contact as two independent dimensions instead of the opposite sides of a continuum. Participants indicated on a seven-point scale: on average, how frequently (1 = never, 7 = extremely frequently) do you have positive/good (or negative/bad) contact with European/East-Asian persons?

Results

The overarching aim of this study is to understand people's naive beliefs about factors influencing engagement in intergroup contact. To this end, we conducted a linear mixed-effect analysis on the relationship between factor type (11 factors, e.g., meta-perception, prejudice, see Table 2) and perception of their importance during ingroup and cross-group encounters using R (R Core Team, 2022) and the *lmer* function of the *lme4* package (Bates et al., 2015).

Partial eta square and corresponding confidence intervals were obtained using the *eta_sqaured* function of the effect size package (Mattan et al., 2020). Tukey posthoc comparisons were obtained using the *emmeans* (Lenth, 2023) function of the *emmeans* package with adjust set to *Tukey*.

Linear mixed-effect models were chosen as they are an extension of simple linear models but allow controlling for both fixed and random effects, a feature particularly useful in the case of non-independent measures (e.g., repeated measures). Indeed, it allows estimating both between and within-subject variability. In our model, we decided to include intercepts for participants as a random effect to estimate within-subject correlation in the observations (i.e., each participant indicated the importance of each factor type twice, one for each of the two scenarios they were presented with). P-values were obtained by likelihood ratio tests of the full model with the fixed and random effects against the model without the fixed effect (Dobson & Barnett, 2018).

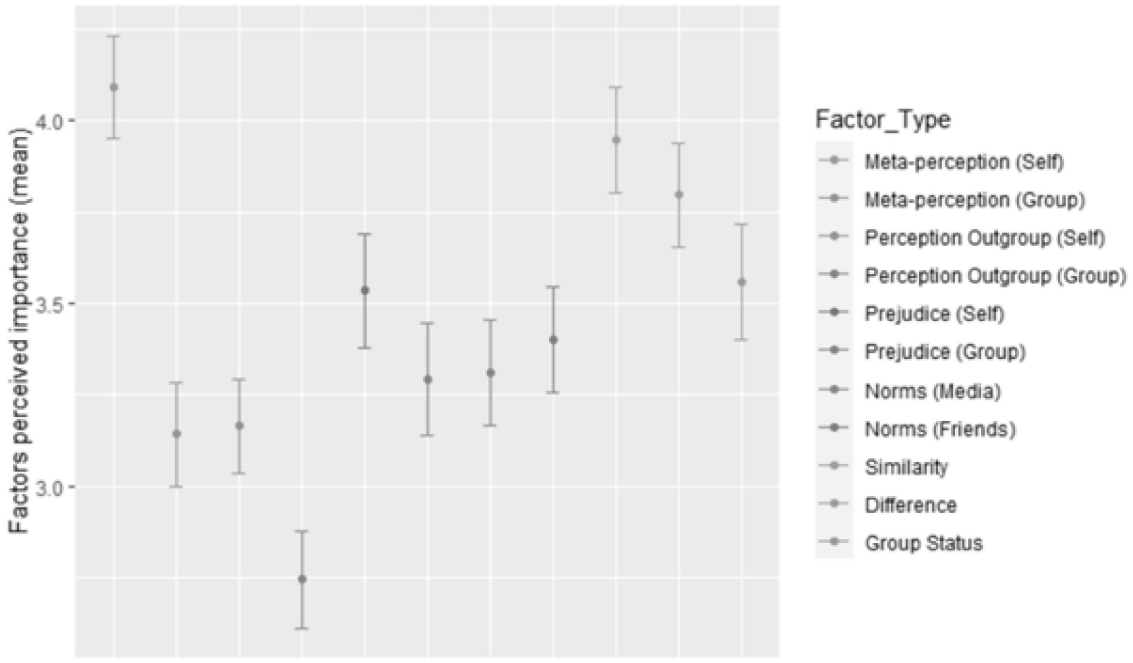
The sample for our model was composed of 306 participants. For each participant, data were collected twice to have data for both an engagement (N= 306) and an avoidance scenario (N=306), a direct (N=306) and an indirect scenario (N=306) and two of the four ingroups (Ing-Ing N=154; Out-Out, N=152) or cross-groups encounters conditions (Ing-Out, N=133; Out-Ing, N=173).

Main: Evaluation of the 11 factors independently of the situation or individual differences

Figure 4 illustrates the relation between the factor type and their perceived importance independently of the situation. It suggests that self meta-perception is the factor perceived as the most important, closely followed by feelings of similarity and feelings of difference. The visualisation also revealed that perception of the outgroup was evaluated as the least important factor.

Figure 4

Factors perceived importance as a function of factors type.



We performed a linear mixed-effect model analysis of the relationship between factor type (fixed effect) and perception of their importance during ingroup and cross-group encounters, with intercepts for participants (i.e., ID) as random effects.

Overall, the type of factor (e.g., self meta-perception) significantly impacts their perceived importance (likelihood ratio test comparing full and null model: $\chi^2(10)$=411.6, p <.001), $\eta\rho^2$ = .06, 95% CI [.05, .07]). Interclass correlations were computed from our linear mixed-effects model and revealed that 34% of the variance

not explained by our fixed effect (i.e., factor type) is attributable to the participants. The results of the linear mixed-effects model and the estimated marginal means score for the importance of the different factors as perceived by the participants are set out in Tables 37 (in Appendix D) and 3.

Table 3

Estimated marginal means for each factor.

Variable	emmean	SE	df	95% CL	
				LL	UL
Meta-perception (Self)	4.09	.09	960.91	3.80	4.38
Meta-perception (Group)	3.14	.09	960.91	2.85	3.43
Perception Outgroup (Self)	3.17	.09	960.91	2.88	3.45
Perception Outgroup (Group)	2.75	.09	960.91	2.46	3.03
Norms (Media)	3.31	.09	960.91	3.02	3.60
Norms (Friends)	3.40	.09	960.91	3.11	3.69
Prejudice (Self)	3.53	.09	960.91	3.25	3.82
Prejudice (Group)	3.29	.09	960.91	3.00	3.58
Similarity	3.95	.09	960.91	3.66	4.24
Difference	3.80	.09	960.91	3.51	4.08
Group Status	3.56	.09	960.91	3.27	3.85

Note. emmeans and SE are used to represent the estimated marginal mean and standard error, respectively. LL and UL are used to represent lower bound and upper bound 95% confidence intervals.

Tukey HSD posthoc pairwise comparisons were made, and results are set out in Appendix D. Results indicate that self meta-perception is significantly evaluated as more important than all the other factors, with the exception of feelings of similarity and difference. The perceived importance of feelings of similarity is also significantly greater than any other factors, with the exception of personal meta-perception and feelings of difference. As expected from the visual exploration, the other factors tend to overlap, besides the perception of the outgroup, which is significantly evaluated as less important than all the other factors.

The impact of the situation

Our first analysis revealed personal meta-perception and feelings of similarity as the most important factors and perception of the outgroup as the least important factor. To go further, we decided to explore the impact of situational factors on the perception of our different factors. To do so, we performed three linear mixed-effect model analyses of the relationship between situational factors, factor type and evaluation of factor type importance during ingroup and cross-group encounters. Our situational factors took into account the characteristics of interaction (i.e., ingroup-ingroup, ingroup-outgroup, outgroup-ingroup, outgroup-outgroup), forms of contact (i.e., direct vs indirect), and engagement (i.e., engagement vs avoidance) in the contact opportunity. As random effects, we had intercepts for participants.

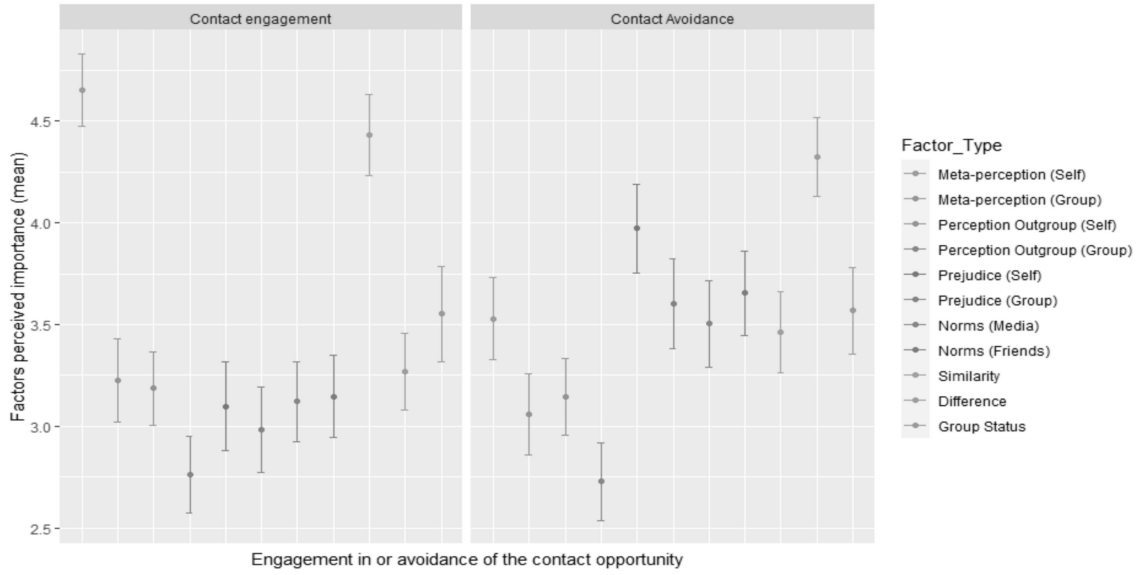
Contact engagement (acceptance or rejection).

Graphic visualization (see Figure 5) suggests an effect of the situational factor engagement on the perceived importance of factor type. In concordance with previous results, when contact is accepted (i.e., engagement), self meta-perception and feelings of similarity are evaluated as the most important factors and perception of the outgroup as the least important one. However, when contact is rejected (i.e., avoidance), feelings of difference are perceived as the most important factor, followed by prejudice (individual level). On the other hand, the perception of the outgroup is still perceived as the least important factor.

Engagement in or avoidance of the contact opportunity significantly interacts with the factor type regarding their impact on the perceived importance of the factors (likelihood ratio test of null vs full model comparison: ($\chi^2(21)$=764.42, p <.001), $\eta\rho^2$ = .05, 95% CI [.04, .06]). Interclass correlations were computed from our linear mixed-effects model and revealed that 35% of the left-over variance (i.e., Variance not explained by our fixed effect) was attributable to the participants. The results of the linear mixed-effects model and the estimated marginal means score

Figure 5

Factors perceived importance depending on acceptance or rejection of the contact opportunity.



regarding the importance of the different factors as perceived by the participants are set out in Tables 38 (in Appendix D) and 4.

Tukey HSD posthoc pairwise comparisons were made, and results are set out in Appendix D. The results indicate that the characters' engagement in or avoidance of the contact opportunity in the scenario impacted the perceived importance of self meta-perception, peer norms, personal and group prejudice, and feelings of similarity and difference. However, it does not seem to influence the perceived importance of group meta-perception, perception of the outgroup member and the outgroup as a whole, media norms and group status (see Table 4 for means).

Two additional linear mixed-effect models were conducted. Each one used a subset of the main sample such that we could test the relationship between factor type and their perceived importance in engagement and avoidance scenarios separately (i.e., see precisely which factors are evaluated as the most important in each condition).

When the characters choose to engage in the contact opportunity, the type

Table 4

Estimated marginal means for each factor depending on contact engagement or avoidance.

Variable		emmean	SE	df	95% CL	
					LL	UL
Meta-perception (Self)	A	4.65	.10	1816.44	4.27	5.03
Meta-perception (Group)	A	3.23	.10	1816.44	2.84	3.61
Perception Outgroup (Self)	A	3.19	.10	1816.44	2.80	3.57
Perception Outgroup (Group)	A	2.76	.10	1816.44	2.38	3.14
Norms (Media)	A	3.12	.10	1816.44	2.74	3.50
Norms (Friends)	A	3.15	.10	1816.44	2.76	3.53
Prejudice (Self)	A	3.10	.10	1816.44	2.72	3.48
Prejudice (Group)	A	2.98	.10	1816.44	2.60	3.37
Similarity	A	4.43	.10	1816.44	4.05	4.81
Difference	A	3.27	.10	1816.44	2.89	3.65
Group Status	A	3.55	.10	1816.44	3.17	3.94
Meta-perception (Self)	R	3.53	.10	1816.44	3.15	3.91
Meta-perception (Group)	R	3.06	.10	1816.44	2.68	3.44
Perception Outgroup (Self)	R	3.14	.10	1816.44	2.76	3.53
Perception Outgroup (Group)	R	2.73	.10	1816.44	2.35	3.11
Norms (Media)	R	3.50	.10	1816.44	3.12	3.89
Norms (Friends)	R	3.65	.10	1816.44	3.27	4.04
Prejudice (Self)	R	3.97	.10	1816.44	3.59	4.35
Prejudice (Group)	R	3.60	.10	1816.44	3.22	3.98
Similarity	R	3.46	.10	1816.44	3.08	3.84
Difference	R	4.32	.10	1816.44	3.94	4.71
Group Status	R	3.57	.10	1816.44	3.19	3.95

Note. A and R are used to refer to engagement (i.e., acceptance) and avoidance (or rejection) of the contact opportunity. emmeans and SE are used to represent the estimated marginal mean and standard error, respectively. LL and UL are used to represent lower bound and upper bound 95% confidence intervals.

of factor (e.g. meta-perception) significantly impacts their perceived importance (likelihood ratio test comparing full and null model: $\chi^2(10)$=530.25, p <.001), $\eta\rho^2$ = .16, 95% CI [.05, .07]). Interclass correlations were computed from our linear mixed-effects model and revealed that 41% of the variance not explained by our fixed effect (i.e., factor type) is attributable to the participants. The results of the linear mixed-effects model and the estimated marginal means score regarding the importance of the different factors as perceived by the participants, as well as

Tukey HSD posthoc pairwise comparisons, are set out in Appendix D. Compared to the main analysis, the results indicate that self meta-perception is significantly perceived as more important than all the other factors besides feelings of similarity. Additionally, the perceived importance of feelings of similarity is significantly greater than any other factor. All other factors tend to overlap, except the perception of the outgroup, which is, once again, significantly perceived as less important than all the other factors.

When the characters choose to avoid the contact opportunity, the type of factor significantly impacts their perceived importance (likelihood ratio test comparing full and null model $\chi^2(10)$=279.85, p <.001), $\eta\rho^2$ = .09, 95% CI [.07, .10]). Interclass correlations were computed for our linear mixed-effect model and revealed that 41% of the variance is attributable to our participants. The results of the linear mixed-effects model and the estimated marginal means score regarding the importance of the different factors as perceived by the participants, as well as Tukey HSD posthoc pairwise comparisons, are set out in Appendix D. The results indicate that contrary to previous analyses, but as expected from visualisation, self meta-perception and feelings of similarity are not perceived as the two most important factors. Indeed, when contact is avoided, feelings of differences and prejudice (individual level) are the most important factors. Perception of the outgroup, however, is still perceived as the least important factor.

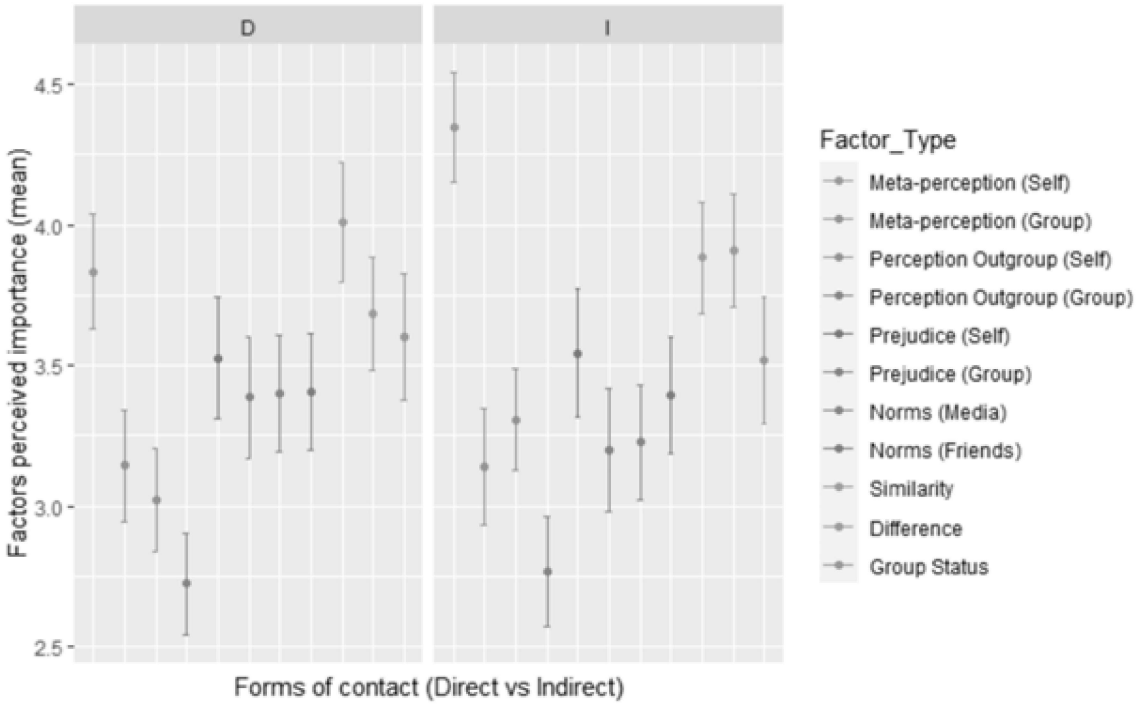
Forms of contact (direct or indirect).

Visualizations (see Figure 6) suggest differences in the evaluation of the type of factors' importance depending on the contact form. However, the order appears to stay the same as the main analysis, with meta-perception (self) and feelings of similarity (and difference) as the most important ones, while the perception of the outgroup is, once again, perceived as the least important factor.

Forms of contact (i.e. Direct vs indirect) significantly interact with the factor

Figure 6

Factors type perceived importance depending on the form of contact.



type regarding their impact on the perceived importance of the factor (likelihood ratio test: $\chi^2(21)$=445.75, p <.001), $\eta\rho^2$ = .0005, 95% CI [.00, .01]. Interclass correlations were computed from our linear mixed-effects model and revealed that 34% of the left-over variance is attributable to the participants. The results from the linear mixed-effects model and the estimated marginal means are displayed in Tables 43 (in Appendix D) and 5.

Tukey HSD post hoc pairwise comparisons were conducted (see Appendix D). Results revealed that only self meta-perception appears to be affected by the forms of contact, with self meta-perception being perceived as more important during the indirect contact scenario (M=4.35) than during the direct contact scenario (M=3.83).

Two additional linear mixed-effects models further explored this difference in perceived importance for each factor type (and especially self meta-perception) using a subset of the samples. Both linear mixed-effects models (1- direct contact only; 2-

Table 5

Estimated marginal means for each factor depending on contact form.

Variable		emmean	SE	df	95% CL	
					LL	UL
Meta-perception (Self)	D	3.83	.10	1910.16	3.44	4.22
Meta-perception (Group)	D	3.14	.10	1910.16	2.76	3.53
Perception Outgroup (Self)	D	3.02	.10	1910.16	2.63	3.41
Perception Outgroup (Group)	D	2.72	.10	1910.16	2.33	3.11
Norms (Media)	D	3.40	.10	1910.16	3.01	3.79
Norms (Friends)	D	3.41	.10	1910.16	3.02	3.79
Prejudice (Self)	D	3.53	.10	1910.16	3.14	3.91
Prejudice (Group)	D	3.39	.10	1910.16	3.00	3.77
Similarity	D	4.01	.10	1910.16	3.62	4.40
Difference	D	3.68	.10	1910.16	3.29	4.07
Group Status	D	3.60	.10	1910.16	3.21	3.99
Meta-perception (Self)	I	4.35	.10	1910.16	3.96	4.74
Meta-perception (Group)	I	3.14	.10	1910.16	2.75	3.53
Perception Outgroup (Self)	I	3.31	.10	1910.16	2.92	3.70
Perception Outgroup (Group)	I	2.77	.10	1910.16	2.38	3.16
Norms (Media)	I	3.23	.10	1910.16	2.84	3.61
Norms (Friends)	I	3.40	.10	1910.16	3.01	3.78
Prejudice (Self)	I	3.54	.10	1910.16	3.15	3.93
Prejudice (Group)	I	3.20	.10	1910.16	2.81	3.59
Similarity	I	3.88	.10	1910.16	3.49	4.27
Difference	I	3.91	.10	1910.16	3.52	4.30
Group Status	I	3.52	.10	1910.16	3.13	3.91

Note. D and I are used to refer to the form of contact, either direct or indirect. emmeans and SE are used to represent the estimated marginal mean and standard error, respectively. LL and UL are used to represent lower bound and upper bound 95% confidence intervals.

indirect contact only) highlight a significant relationship between the factor type and their perceived importance (likelihood ratio test: 1- $\chi^2(21)$=209.97, p <.001), $\eta\rho^2$ = .07, 95% CI [.05, .08]; 2- $\chi^2(21)$=226.12, interclass correlation= 42%; p <.001), $\eta\rho^2$ = .08, 95% CI [.06, .10], interclass correlation=36%). Appendix D show linear mixed effects model results, along with the table of emmeans and Tukey HSD post hoc comparisons for model 1 and model 2. Results indicated that perception of the outgroup was the least important factor in both groups. Further, when contact

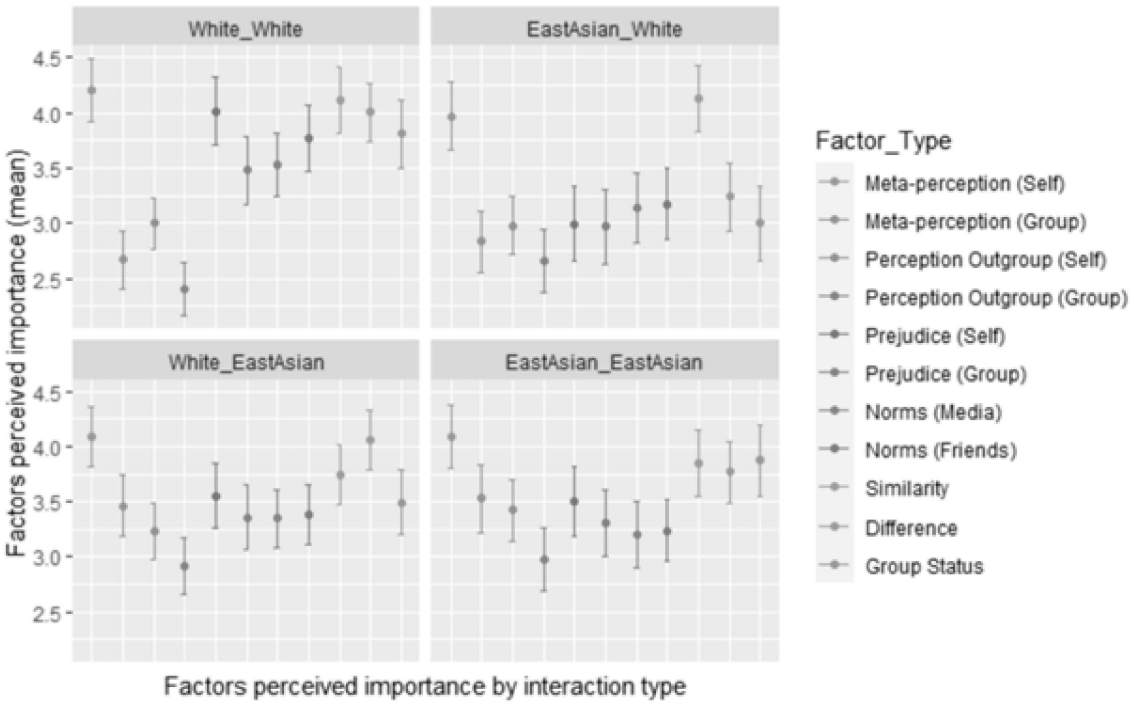
was direct, perceived similarity appeared as the most important factor, followed by meta-perception (self), while other factors tended to overlap. When contact was indirect, meta-perception (self) alone was perceived as the most important factor, while other factors tended to overlap.

Interaction (ingroup or cross-group).

Visualizations (see Figure 7) suggest that meta-perception (self) is the most important factor in all four interaction situations. Interestingly, in the outgroup-ingroup (East Asian - White British) interaction, feelings of similarity were evaluated as one of the most important factors, while in the ingroup-outgroup (White British – East Asian), feelings of differences were evaluated as more important. Other factors tend to overlap, except for the perception of the outgroup, which is, once again, perceived as the least important factor.

Figure 7

Factors perceived importance depending on characteristics of the interaction.



Characteristics of the interaction, the type of factor and their interaction im-

pact the perceived importance of the factors ($\chi^2(23)$=584.3, p <.001), $\eta\rho^2$ = .02, 95% CI [.01, .02].) The interclass correlation was computed from our linear mixed-effects model, revealing that 35% of the left-over variance was attributable to participants. The results from our linear mixed-effects model and the estimated marginal means are displayed in Table 48 (in Appendix D) and 7.

Tukey HSD post hoc pairwise comparisons were conducted (Appendix D). Results revealed that group meta-perception, perception of the outgroup, personal prejudice and group status were impacted by the characteristic of the interaction.

Four additional linear mixed-effects models explored the difference in perceived importance for each factor type using a subset of the samples. All linear mixed-effects models (1- Ing-Ing; 2-Ing-Out; 3- Out-Ing; 4- Out-Out) highlight a significant relationship between the factor type and their perceived importance (likelihood ratio tests: see Table 6). Appendix D show linear mixed effects model results, emmeans and Tukey HSD post hoc comparisons for all four models. Results indicated that perception of the outgroup was the least important factor in all interaction scenarios, although closer to other factors type in the ingroup-outgroup situation. Meta-perception (self) was perceived as the most important factor in both ingroup-ingroup and outgroup-outgroup situations but nearly overlapped with other factors. It was also the most important factor in the outgroup-ingroup situation, followed by feelings of difference, while in the ingroup-outgroup situation, feelings of similarity were the most important factor, followed by meta-perception (self). All other factors tend to overlap.

Individual differences

Finally, we conducted a series of regression analyses to examine whether individual differences (i.e., negative and positive past contact experiences and attitudes toward ingroup and outgroup) had an impact on the perceived importance of our factors. Only the models for the perception of the outgroup and perception of the other were significant Results of the multiple linear regression (see section:Individual differences in Appendix D)

Table 6

Likelihood ratio test and interclass correlation depending on the type of interaction.

					95 % CI		
Interaction	χ^2	**df**	$\eta\rho^2$	\{p}	**L**	**U**	**Interclass correlation (%)**
Ing-Ing	239.75	10	.14	<.001	.11	.17	30
Ing-Out	109.83	10	.06	<.001	.04	.08	46
Out-Ing	128.74	10	.09	<.001	.06	.12	36
Out-Out	88.399	10	.06	<.001	.03	.07	44

indicated that only the model accounting for the effect of individual differences on the perception of the outgroup and perception of the other where significant (F(9,602)= 3.343, p < .001, R2=.04 and F(9,602)= 2.848, p < .002, R2=.04). More precisely, past positive and negative contact with ingroup and outgroup members, as well as the interaction between attitudes toward ingroup and outgroup members, influenced perceived importance of the perception of the outgroup and perception of the other. Positive contact was positively associated with both variables, and negative contact was negatively associated with both variables. Overall, individual differences appear to have a limited impact on the perceived importance of our factors of interest, with only two factors significantly impacted and only a small amount of variance (4%) explained.

Discussion

This study's overarching aim was to understand better people's naive belief about intergroup contact predictors by investigating people's evaluation of predictors identified in the literature and their impact on fictional characters' engagement in or avoidance of intergroup contact. We expected some factors to be evaluated as more important than others and this evaluation to depend on the situation/context and participants' individual differences. Results revealed that self meta-perception and feelings of similarity were evaluated as the most important factors across situations and independently of individual differences (e.g. past contact experiences or attitudes). Surprisingly, the perception of the outgroup was consistently perceived as the least important factor, an effect slightly dependent on past contact experiences. Indeed, if participants had more positive past

contact, they evaluated the perception of the outgroup as more important. Finally, the situation (i.e. type of scenario) only had a limited impact on the evaluation of the factors' importance. Indeed, even if the situation impacted the order of some factors, either self meta-perception or feelings of similarity were perceived as the most important factor in all conditions except when contact was avoided. When contact was avoided, feelings of difference and prejudice toward the individual were perceived as the most important factors.

The role of meta-perception

Our results support studies using self-report measures to explore the link between meta-perception and intergroup contact engagement. More precisely, it extends previous research by exposing the unique role of self meta-perception, compared to group meta-perception, highlighting the necessity to differentiate both. Studies have shown that self (but not group) meta-perception valence influenced intergroup contact engagement intention (Fowler & Gasiorek, 2020). Similarly, evidence suggests that self-meta-perception is a stronger predictor of engagement in contact than group meta-perception or perception of the outgroup (MacInnis & Hodson, 2012). Our results extend these findings by showing that people's beliefs about those factors go in the same direction as results obtained with more traditional methods, overall supporting the consistency of those findings. This supports paying careful attention to meta-perceptions' importance in our further studies.

The role of feelings of similarity

While few studies have explored the role of feelings of similarity in intergroup contact, intuitive belief would lead us to think that feeling similar to the outgroup will influence our behaviour toward said outgroups. Evidence accounts for the role of similarity in intergroup contact in various ways. First, ingroup similarity was found to impact intergroup contact. For instance, feeling more similar to the ingroup increased meta-perception's effect on the intergroup contact–prejudice relationship (Méndez et al., 2007). Second, feelings of similarity with outgroup members increase the effect of inclusion of the other in the self on intergroup contact. Our results provide further support for this evidence by confirming

people hold the intuitive belief that feeling of similarity with the other person influences engagement in contact with this person, as feelings of similarity were evaluated as the second most important factor.

The (surprising) role of perception of the outgroup

Across situations, the perception of the outgroup has been evaluated as the least important factor. This is surprising given the importance of attitude and related concepts in intergroup contact. This could be explained by social desirability. Social desirability refers to "research participants' tendency to bias their responses in surveys and experiments in order to appear in a more favourable light" (Vesely & Klöckner, 2020). Thus people would avoid giving importance to the perception of the outgroup to avoid appearing prejudiced. However, social desirability was partially avoided with people evaluating others' behaviours rather than their own. Further, if it were the only explanation, then the same effect would be found for prejudice. An alternative explanation is the conceptualisation of the perception of the outgroup as a mediator of meta-perception. Indeed, studies have found that meta-dehumanisation can influence islamophobia levels (Pavetich & Stathi, 2021) or outgroup aggression behaviour (Kteily & Hodson, 2016) through increased outgroup dehumanisation. It is possible that it is evaluated as less important because people might have considered only first-level factors (with direct effect rather than mediators) and thus not realise the importance of perception of the outgroup and instead consider only each factor's direct effect without regard for their potential interplay. There is also a possible disconnect between how people view others in a hypothetical scenario and how people themselves would think when presented with a real-life contact scenario. There is an evidence base showing that attitudes towards outgroups predict willingness to engage in intergroup contact (Capozza et al., 2017; Kteily & Hodson, 2016; O'Brien et al., 2018; Pauketat et al., 2020; Stathi et al., 2020; Turner et al., 2013). Therefore, as we move forward, we consider it worthwhile to measure the perception of the outgroup alongside meta-perceptions.

Moderating factors

In this study, participants measured two of four possible combinations in the scenarios: One with only White people, one with only East Asian people, and two scenarios in which the nature of the interaction was obviously intergroup contact.

Although limited, the influence of situational (e.g., engagement, forms of contact, type of interaction) and individual factors (e.g., past contact experience, attitudes) supports the idea of context-dependent effects of intergroup contact and its predictors. Our results suggest that the group of the seeker of the interaction (e.g., White British vs East Asian) influenced the evaluation of intergroup contact engagement factors for our (White British) participants. Group meta-perception, perception of the outgroup, personal prejudice, and group status were affected. However, the main order of the factor was no affected with self meta-perception and feeling of similarity evaluated as the most important factor in most interaction situations. We could speculate that perhaps people paid somewhat less attention to the ethnicity of the individuals involved than they might do when faced with an intergroup contact opportunity themselves, explaining the limited effect of the type of interaction.

However, these results still align with previous research demonstrating the differences between different groups as a function of the type of groups concerned (Cottrell & Neuberg, 2005; Seger et al., 2017) and their relative status (Hässler et al., 2020b; Saguy et al., 2008). They also support studies demonstrating that past contact history influences behaviour (Bagci et al., 2020b; Meleady & Forder, 2019; Turner et al., 2013) and attitude as participants previous positive experience predicted their evaluation of perceptions of the outgroup importance.

Method: a new way of looking at intergroup contact (engagement)

Reflection on the measurement of contact and lack of understanding of people's perception of contact (Brown & Hewstone, 2005; Keil & Koschate, 2020) has highlighted that the definition of intergroup contact differs between researchers and laypeople. For instance, laypeople often lack to include negative or non-direct intergroup experiences in their definition. However, "how 'contact' is conceptualised by those involved has rarely

been examined" (Keil & Koschate, 2020, p.965). Yet, it seems important to understand how people conceive intergroup contact and engagement in intergroup contact to close the gap between lab research and effective interventions. This first study provides new evidence regarding people's understanding of contact engagement and the evaluation of intergroup contact predictors. It also gives information regarding people's meta-cognitive process in relation to intergroup contact, as it demonstrates that people are able to reflect on intergroup contact behaviour of others. Overall, this first study provides interesting theoretical and practical insights that can inform future research in the field.

Limits

Despite good theoretical and practical outcomes from this first study, our work presents some limits. First, our sample is composed of only White British students. While student samples are widely used in social psychology, some studies have found differences between students and general samples (Hanel & Vione, 2016). Generalisation, thus, needs to be done with caution.

Second, evidence suggests complex effects such as intergroup contact (engagement) are context and group dependent. For instance, different groups (e.g., non-fundamentalist Christians vs Native Americans) and their relative threat (e.g., threats to the ingroup freedom vs ingroup property and values) have been demonstrated to trigger distinct reactions (e.g., higher prejudice toward non-fundamentalist Christians, Cottrell & Neuberg, 2005). Similarly, past contact experiences were found to increase engagement in collective actions for members of high-status groups (e.g., members of advantaged/majority groups) and reduced engagement for members of lower-status groups (e.g., members of disadvantaged/minority, Hässler et al., 2020b; Saguy et al., 2008). Given those results, it is legitimate to think our results could be different if we had managed to gather data from people with East Asian origins or replicate this study in another intergroup context. For certain groups, especially minorities, prejudice or perception of the outgroup might appear more important as it is more relevant during their own intergroup experiences.

Third, our indirect contact scenarios depict two characters as colleagues (i.e., going to the same lectures), while the two characters are complete strangers in the direct scenarios.

Given the relevance of intimacy in contact (Marinucci et al., 2020), it is relevant to note the potential bias it might have created. Indeed, the context and relation might have impacted the relevance of self meta-perception (higher in the indirect contact scenarios) as it might appear more relevant and meaningful for the characters in this scenario (i.e., more intimacy between them). However, despite this difference, the order of the factors in this situation followed the same trend as in most of the analyses.

Conclusion

Overall, this first study gives some promising results. First, using an unusual method (i.e., people's conscious beliefs), it has given us some interesting insights into the mechanisms behind intergroup contact engagement and people's ability to reflect on intergroup contact mechanisms. It seems interesting to keep exploring this question to better understand the problem and also to design effective interventions.

Second, our results suggest some potential impact of intergroup context and group-dependent results (e.g., differences between ingroup and cross-group interactions), confirming the importance for studies to take the broader context into consideration. Future studies should explore elements of the said context and its impact on intergroup contact predictors. For instance, scholars should consider different intergroup contexts (e.g., with different types of groups, with different intergroup dynamics, etc.) and observe whether their results replicate in those different contexts.

Finally, our results highlight the role of self meta-perception as an important predictor of intergroup contact engagement. It also illustrates the surprising lack of importance of the perception of the outgroup, at least in this specific context. It seems important to develop new studies exploring those factors in more detail.

Table 7

Estimated marginal means for each factor depending on the type of interaction.

Variable	Condition	emmean	SE	df	95% CL	
					LL	UL
Meta-perception (Self)	EastAsian - EastAsian	4.17	.14	3813.39	3.62	4.72
Meta-perception (Group)	EastAsian - EastAsian	3.61	.14	3813.39	3.06	4.16
Perception Outgroup (Self)	EastAsian - EastAsian	3.50	.14	3813.39	2.95	4.05
Perception Outgroup (Group)	EastAsian - EastAsian	3.06	.14	3813.39	2.51	3.61
Norms (Media)	EastAsian - EastAsian	3.29	.14	3813.39	2.74	3.84
Norms (Friends)	EastAsian - EastAsian	3.32	.14	3813.39	2.77	3.87
Prejudice (Self)	EastAsian - EastAsian	3.59	.14	3813.39	3.04	4.14
Prejudice (Group)	EastAsian - EastAsian	3.39	.14	3813.39	2.84	3.94
Similarity	EastAsian - EastAsian	3.93	.14	3813.39	3.38	4.48
Difference	EastAsian - EastAsian	3.85	.14	3813.39	3.30	4.40
Meta-perception (Self)	EastAsian - White	4.04	.14	4241.09	3.46	4.62
Meta-perception (Group)	EastAsian - White	2.90	.14	4241.09	2.32	3.49
Perception Outgroup (Self)	EastAsian - White	3.05	.14	4241.09	2.47	3.63
Perception Outgroup (Group)	EastAsian - White	2.72	.14	4241.09	2.14	3.30
Norms (Media)	EastAsian - White	3.20	.14	4241.09	2.62	3.79
Norms (Friends)	EastAsian - White	3.24	.14	4241.09	2.66	3.82
Prejudice (Self)	EastAsian - White	3.06	.14	4241.09	2.48	3.64
Prejudice (Group)	EastAsian - White	3.04	.14	4241.09	2.46	3.62
Similarity	EastAsian - White	4.20	.14	4241.09	3.62	4.78
Difference	EastAsian - White	3.31	.14	4241.09	2.73	3.89
Group Status	EastAsian - White	3.07	.14	4241.09	2.49	3.65
Meta-perception (Self)	White - EastAsian	4.03	.13	3401.53	3.51	4.56
Meta-perception (Group)	White - EastAsian	3.41	.13	3401.53	2.89	3.93
Perception Outgroup (Self)	White - EastAsian	3.18	.13	3401.53	2.66	3.70
Perception Outgroup (Group)	White - EastAsian	2.87	.13	3401.53	2.34	3.39
Norms (Media)	White - EastAsian	3.29	.13	3401.53	2.77	3.82
Norms (Friends)	White - EastAsian	3.33	.13	3401.53	2.81	3.86
Prejudice (Self)	White - EastAsian	3.50	.13	3401.53	2.97	4.02
Prejudice (Group)	White - EastAsian	3.31	.13	3401.53	2.78	3.83
Similarity	White - EastAsian	3.69	.13	3401.53	3.16	4.21
Difference	White - EastAsian	4.00	.13	3401.53	3.48	4.53
Group Status	White - EastAsian	3.44	.13	3401.53	2.92	3.96
Meta-perception (Self)	White - White	4.12	.13	3771.44	3.57	4.67
Meta-perception (Group)	White - White	2.59	.13	3771.44	2.04	3.13
Perception Outgroup (Self)	White - White	2.92	.13	3771.44	2.37	3.47
Perception Outgroup (Group)	White - White	2.32	.13	3771.44	1.77	2.87
Norms (Media)	White - White	3.45	.13	3771.44	2.90	4.00
Norms (Friends)	White - White	3.69	.13	3771.44	3.14	4.24
Prejudice (Self)	White - White	3.93	.13	3771.44	3.38	4.48
Prejudice (Group)	White - White	3.40	.13	3771.44	2.85	3.95
Similarity	White - White	4.03	.13	3771.44	3.49	4.58
Difference	White - White	3.92	.13	3771.44	3.38	4.47
Group Status	White - White	3.73	.13	3771.44	3.18	4.28

Note. East-Asian and White British indicate the group membership of the receiver and seeker. emmeans and SE are used to represent the estimated marginal mean and standard error. LL and UL are used to represent lower bound and upper bound 95% confidence intervals.

Part 3

The effect of perceptions, norms, context

Chapter 3

A test of the Perception-norm model

Overview

This second empirical chapter aims to explore the combined effect of one's perception and norms in a specific intergroup context on their engagement in intergroup contact. In the following chapter, we will start by summarising the research on the role of meta-perception, perception of the outgroup, norms and context in intergroup contact engagement (i.e., a summary of the literature review). Following this, we will present three studies testing the Perception-norm model using structural equation modelling to analyse how meta-perception, perception of the outgroup and norms directly or indirectly predict contact intention in two intergroup contexts. The first study will examine this issue in the context of the run-up to the 2020 election in the United States. The second study will also focus on the Democratic and Republican parties, but this time in the context of the post-presidential elections. Finally, the third study will focus on the U.S. racial context by testing our Perception-norm model on data from Black and White people. We did find an effect of meta-perception on contact intention. Further, we found different effects of self and group meta-perception and of ingroup and outgroup norms. Finally, results encourage considering the intergroup context as differences between and within our two intergroup contexts were found. Results and their implications will be discussed.

Introduction

As set out in Chapter 1, much research over the past 70 years has demonstrated the positive impact of intergroup contact, leading to the firm establishment of intergroup contact theory as a mechanism to reduce prejudice (Pettigrew & Tropp, 2008). Intergroup contact can lessen prejudice, strengthen social cohesiveness, and even enhance cognitive

capacities (Hässler et al., 2020b; Meleady, 2021; Pettigrew & Tropp, 2006), as indicated through studies using a wide variety of paradigms, including Social Network Analysis (Wölfer & Hewstone, 2017); Videos (Cooley & Burkholder, 2011); Trust games (Vermue, 2019); and different designs (e.g., correlational, longitudinal and experimental; Banas et al., 2020; Binder et al., 2009; Lemmer et al., 2015; Paluck et al., 2019; Pettigrew & Tropp, 2006; Zhou et al., 2019). A significant body of experimental studies has also been used to account for the effect of intergroup contact in the lab (Pettigrew & Tropp, 2006) and in the field (Lemmer et al., 2015). Over the years, intergroup contact has been conceptualised as more than face-to-face intergroup contact and now includes multiple other forms of intergroup interactions (e.g., observation of intergroup interactions).

One problem this thesis confronts is that although mobile populations and our interconnected online world provide more opportunities than ever for intergroup contact, its practical impact is not as large as it could be, often because people hesitate to engage in (positive) cross-group contact (Kauff et al., 2020; Paolini et al., 2018; Ron et al., 2017). Seemingly rising tensions between political or racial groups in the U.S. is one example among many that indicate that opportunities for contact do not inevitably lead to more positive intergroup relations. Indeed, several reviews and critical accounts (Kauff et al., 2020; Paolini et al., 2018; Ron et al., 2017) point to people's lack of involvement in and/or purposeful avoidance of intergroup interaction. Consequently, it has become an urgent task for scholars in the area to concentrate on the question of intergroup contact engagement by understanding how, when, and why people engage in intergroup interaction.

As discussed in Chapter 1, although the literature on the topic is still evolving, several factors have been emphasised for their role in intergroup contact engagement, including perceptions (e.g., meta-perceptions, perceptions of the outgroup), norms and context. We will now briefly re-emphasise the major factors we are interested in as we turn to test the Perception-norm model.

Meta-perceptions, meta-stereotypes or meta-prejudices are defined as individuals' beliefs about how their or their group's personal attributes (e.g., personality traits, emotions, beliefs, and humanity) are perceived by others. On an interpersonal level, meta-perceptions influence how we engage with others, which holds true when group membership

is salient. Meta-perception's effect on intergroup relations has been demonstrated multiple times, including its effect on intergroup contact engagement (e.g., in collective action, general contact engagement, Borinca et al., 2021; Fowler & Gasiorek, 2020; MacInnis & Hodson, 2012; Moore-Berg et al., 2020a; Quesnel, 2020). Most of these studies account for the role of group meta-perception. However, studies contrasting self and group meta-perception indicate the former to predict better intergroup contact engagement (Fowler & Gasiorek, 2020; MacInnis & Hodson, 2012). In study 1, we found people gave more importance to self meta-perception than group meta-perception when explaining why (fictional) individuals engaged with or chose not to accept a request in a contact scenario.

Perception of the outgroup can be defined as one's beliefs about others' (i.e., either individual group members or the group as a whole) personal attributes (e.g., personality traits, emotions, beliefs, humanity). One of the most foundational axioms in social psychology is that attitudes generally predict behaviour (Ajzen & Fishbein, 1977, 1980; Albarracin et al., 2005); and a good body of work details how attitudes relate to intergroup contact engagement (Capozza et al., 2017; Kteily & Hodson, 2016; O'Brien et al., 2018; Schlüter et al., 2018; Turner et al., 2013). More interestingly, evidence suggests that one's perception of the outgroup mediates the relationship between meta-perception and engagement in intergroup contact (Kteily & Hodson, 2016; MacInnis & Hodson, 2012; O'Brien et al., 2018; Pauketat et al., 2020; Stathi et al., 2020). For instance, meta-dehumanisation has been demonstrated to influence islamophobia levels (Pavetich & Stathi, 2021) or aggression behaviour to outgroups (Kteily & Hodson, 2016), through increased outgroup dehumanisation. Although our results in Study 1 show that participants did not think the perception of the groups involved had an important influence on behaviour, evidence is robust enough to expect its influence when individuals report their own contact intentions.

Overall, evidence regarding the role of meta-perception and perception of the outgroup in intergroup contact engagement are scattered across the literature under various names and subsets. For instance, studies have focused on meta-prejudice and prejudice or on meta-dehumanisation and dehumanisation. Each part of a larger meta-perception and perception of the outgroup concept. We define here meta-perception and perception of the outgroup as the general beliefs about how the self is perceived by the outgroup (i.e.,

meta-perception) and how we perceive the outgroup members (i.e., perception of the outgroup). While these beliefs can include such things as prejudiced attitudes, we decided to focus on more general impressions that can be placed on a positive-to-negative continuum. Consequently, the present work will focus on four key evaluative concerns established in the literature concerning how one thinks they are perceived and how they perceive others, namely the dimension of morality, warmth, and competence (Cuddy et al., 2008; Fiske, 2002; Leach et al., 2007). Due to sample size and model limit these measures will be collapsed to form a general meta-perception and perception of the outgroup concept. While not ideal as it might collapse across important group differences, we believe it is still a good general indicator of those variables and the reliability of this combined measure is acceptable. The limits of this method choice will be further discussed in the Chapter 5 limit section.

In the present work, we define norms as "an expectation about appropriate behaviour that occurs in a group 'context'" (McDonald & Crandall, 2015). The influence of norms on behaviour has long been studied, and evidence accounts for their effect on intergroup contact engagement. One piece of evidence comes from research on extended contact that conceptualises cross-group friendship as descriptive norms about how people in two different groups interact (Turner et al., 2008; Wright et al., 1997). Further evidence also accounts for the role of contact norms in social exclusion (Cocco et al., 2021; Grütter & Meyer, 2014) or engagement in vicarious contact (Park et al., 2020).

Whilst existing evidence supports the role of meta-perceptions, perceptions of the outgroup, and norms as being predictive of intergroup contact, as seen in Chapter 1, studies frequently fail to provide the broader picture of how different factors interact to predict contact engagement. For instance, together, meta-perceptions and perceptions of the outgroup could inform and enrich the normative context. According to Vauclair et al. (2016), meta-perception, and by extension, perception of the outgroup, is part of the normative climate, leading to the conclusion that their effect on intergroup contact engagement might be related. More precisely, one's perceptions of/in an intergroup context will inform and enrich said (normative) intergroup context. For instance, if someone believes to be perceived as warm and perceives the outgroup similarly, it will influence their perception of

the normative context regarding contact with that group, increasing their desire to engage. Further, we can imagine that perceptions both of the self or own-group and of the outgroup, because they relate to stereotypical representation of both groups that are entangled (e.g., group X is lazy ... Compared to mine), it seems logical to explore the influence of both on perception of ingroup and outgroup norms. For instance, one could expect White people with more open-minded views of Black people to also have more contrasted perceptions of what (general) White people's contact norms are. In sum, studies seem to provide evidence of the effect of perception and norms on contact engagement, but further studies are needed to establish if these effects are related.

Additionally, few studies consider the larger intergroup context's influence on intergroup contact predictors. Yet evidence highlights the difference in intergroup contact effects depending on the group characteristics (e.g., type of group, group status, history and feeling of similarity between and within groups, Capozza et al., 2017; Cottrell & Neuberg, 2005; Hässler et al., 2020b; Méndez et al., 2007; Saguy et al., 2008; Seger et al., 2017) and the socio-cultural context (e.g., media and law, Crandall et al., 2018; Green et al., 2020; Vezzali, 2017).

The present studies

The following three studies are part of a new wave of research investigating predictors of intergroup contact engagement in an effort to examine the broader picture, tying together the impact of meta-perceptions, contact norms, and perceptions of the outgroup. For example, even if perceptions are said to inform normative context, no existing studies directly explore their relation and joint role. Further, despite the established effect of context, few studies consider or compare the effects of different predictors in various contexts).

Consequently, we propose the Perception-norm model whereby one's perceptions in a specific intergroup context influence their engagement in intergroup contact. We posit that one's perception of ingroup-outgroup relations and context will impact their desire to interact with outgroup members. More precisely, we expect one's meta-perception to influence intergroup contact engagement via, successively, perception of the outgroup and

contact norms and for these effects to depend on the context. To do this, we measured different aspects of meta-perception, perception of the outgroup (e.g., competence, warmth, morality and general positivity) and intergroup contact norms. Additionally, we controlled for portions of the impact of context by controlling for the effect of personal history with the outgroup (e.g., positive or negative past contact with ingroup and outgroup members) and group identification (e.g., ingroup identification level). We tested these models in differing intergroup contexts with groups that may vary in status and relative power: 1) attitudinal (political with Democrats and Republicans in the U.S.) (a – pre-election; b – post-election, i.e., change of power) ; 3) racial (with Blacks and Whites in the U.S.). Study 3 also accounts for the media and social context that people immerse themselves in.

In general, we expect meta-perception, perception of the outgroup and intergroup contact norms to influence contact intention. Precisely, we explore the following model: self and group meta-perception will predict contact intention via successively influencing the perception of the outgroup and intergroup contact norms (ingroup and outgroup). We acknowledge that other or reverse models could exist. One such model is presented in Appendix F.

Further, according to the literature, we expect, self and group meta-perception to have different impacts on contact intention, with self meta-perception as a stronger predictor of contact engagement than group meta-perception. We also expect meta-perception (self and group) to predict the perception of the outgroup. Finally, we expect the impact of meta-perception, perception of the outgroup and intergroup contact norms to differ as a function of the intergroup context considered but have no clear expectation of how this will differ.

Study 2

In this first study, using structural equation modelling (SEM), we test our Perception-norm model in the U.S. political context. More precisely, data from 208 Democrats and 166 Republicans were collected in October 2020, the month before the U.S. Presidential election. This context was selected for two reasons: 1) While Republicans were still in power, this could change soon; 2) the mediatic coverage of the campaign put the spot on

the relationship conflict and perception the two groups hold toward each other. This created a particular context in which perception and meta-perceptions might be particularly important.

The direct and indirect effects of meta-perception (self and group) on intergroup contact intention via the perception of the outgroup and contact norms are presented. Results and their implications will be discussed.

Method

Participants.

We recruited 516 participants[5] to take part in our survey on "perceptions and experiences of politics and social interactions" between the 16th and the 30th of October 2020 (1-3 weeks before the U.S. Presidential election) in exchange of $0.20. . Sixty-one participants were excluded from the sample as they did not meet one of the following criteria: a) they asked for their data to be excluded or withdrawn (N= 15); b) the quality of the data did not meet our minimal standard (N= 37)[6]; c) they indicate being non-native English speaker (N= 5); e) they indicate not being a U.S. Citizen (N= 4). Additionally, the task was only presented to participants situated in the U.S. and with a HIT Approval Rate for all Requesters' HITs greater than or equal to 95%.

The final sample comprised 455 participants (42% Female, 58% Male and 0.01% other or non-binary) aged between 22 and 81 (M = 38.81) and 74% White. The sample is quite well divided between our two target groups, with 54.5% of Democrats and 45.5% of Republicans, and 98% of our participants reported being registered to vote.

Establishing a suitable sample size is a crucial concern in SEM, yet the literature lacks consensus on the subject. Some authors suggest a minimum of 100 to 150 participants (Tinsley & Tinsley, 1987). Regarding multigroup SEM, Kline (n.d.) suggests a standard of 100 cases (or participants per group). Finally, Soper (2019) proposes an online tool to calculate the sample size necessary for SEM. We specified an effect size of d=.20 and a desired power of 80%. With seven latent variables and 51 observed variables, a minimum

[5]There is no consensus about the how to determine the sample size in SEM. However, some authors recommend a minimum of 100 cases or observations per group for multigroup SEM (Kline, n.d.)

sample size of 425 was recommended to test our Perception-norm model.

Ethics.

The PSY S-REC – UEA School of Psychology Research Ethics Subcommittee approved the project on October 12th 2020 (reference: 2020-1034-001994). The study was advertised through Amazon's Mechanical Turk (MTurk) (convenience sample), and participants were compensated $.20 for their time in this 10-minute study.

Procedure.

Participants were recruited through advertisements on the MTurk platform. They were presented with a short summary of the study and proposed a $0.20 in exchange for participating in this 10 min survey. The survey was compiled using the Qualtrics platform. The first page gave more details about the survey and participants' rights and allowed them to give their informed consent. Participants were informed the study would be about political opinions, contact experience and relationships with people of different political backgrounds but were not given more information on the purpose or topic of the study.

The first part of the study consists of various demographic questions, including political affiliation and voter registration status.

The second part of the survey comprised different scales designed to measure meta-perception (self and group), perception of the outgroup, contact norms (ingroup and outgroup), contact intention, ingroup identification and past contact experiences. Additional measures were collected but are not included in our analysis (see Appendix E for a complete list).

At the end of the survey, participants accessed a debriefing page with additional information regarding the study and were given the opportunity to withdraw their data. Independently of their answer, they were thanked for their participation and given a unique code to receive their compensation.

[6]Data screening was computed to spot any low-quality data following Yentes (2020) recommendation.

Material.

Political affiliation. Political affiliation was assessed using the item: "Even if you don't consider yourself a Democrat or a Republican, if you had to pick between the two, which party is closer to your politics? (Democrat or Republican). Seger et al. (2009) used such a forced choice, as people with strong leanings might still want to be considered 'independent'. Whilst many people may not strongly identify with either party, if they did not, they should report low ingroup identification levels, ensuring a good range on this metric.

Ingroup identification. This was measured using MacInnis (2009) 3-item scale (original Cronbach's α= .86). Items included "How important to your self-identify is being a [ingroup]?". They were rated on a 1 (not at all) to 7 (very much) scale. Items were used as a latent variable, with higher *scores* representing higher identification.

Meta-perceptions. We used Livingstone et al. (2019) 16 semantic differential items to measure self and group meta-perception and perception of the outgroup (original α=.87). Participants ranked the items on a 1 (positively- anchored scale end) to 7 (negatively- anchored scale end). Items covered four dimensions: competence, warmth, morality, and overall positivity. Items included: highly skilled-unskilled, likeable-dislikeable, moral-immoral, and positive-negative (see Appendix E) for a complete list). Items were introduced by a statement such as: "In general, [outgroup] tend to see [me/my group] as ...". Items were reverse coded and used as latent variables, with higher *scores* representing more positive meta-perceptions (self and group) and perception of the outgroup.

Contact norms. Perception of the ingroup (original α =.90) and outgroup (original α =.88) contact norms were measured by adapting two items from Gómez et al. (2011). Participants were asked: "To what extent do you think (ingroup or outgroup member) consider it positive to have (outgroup or ingroup member) as friends?" or "would feel comfortable with (outgroup or ingroup member) in general". All items were measured on a 7-point scale ranging from 1 (totally disagree) to 7 (totally agree). Items were used as latent variables, with higher *scores* representing the perception of higher ingroup or outgroup normative support for intergroup contact.

Contact intentions. We adapted Crisp and Husnu (2011) contact intentions measure toward elderly people to Democrats and Republicans (original α =.73). Participants were asked to "Think about the next time you find yourself in a situation where you could interact with a ... (e.g., waiting in line for a bus, with friends in " café, etc.):" and answer seven questions related to that situation. Sample items are: "How interested would you be in striking up a conversation?" (1-Not at all, to 7-Highly likely); "How much do you intend to interact with an ... in the future?" (1-Not at all, to "-Very much); "How willing would you be to participate in a discussion group that includes both ... and ..., that will focus on political topics?" (1-Not at all, to 7-Very much).

Items were used as a latent variable with higher *score* representing higher intention to engage in intergroup contact.

Past contact experience. We used single-item for contact valence (Barlow et al., 2012). This measure offers the opportunity to treat positive and negative contact as two independent dimensions instead of the opposite sides of a continuum. Participants indicated on a seven-point scale: "On average, how frequently do you have positive/good (or negative/bad) contact with ingroup or outgroup members? (1 = never, 7 = extremely frequently). Items were used as manifest variables with higher *score* representing higher levels of positive or negative past contact experiences with the ingroup or the outgroup.

Additional measures. Perception of contact opportunities, evaluative concern, typicality, favouritism, perception of bias, policies, and engagement in cross-group contact were also measured but were not analysed. See Appendix E for details.

Results

Descriptives statistics and correlations.

First, the correlations among all variables were examined. These are presented in Table 8, along with the descriptive statistics. Significant positive relationships existed between meta-perception (self and group), perception of the outgroup, contact norms (ingroup and outgroup) and contact intention. Additionally, past contact experience and ingroup identification were also correlated to all or some of our variables of interest.

Further, we also explore the correlations between all the above-mentioned variables

for each group separately. These are presented in Table 68 and Table 69 (see Appendix H), along with the descriptives statistics. Exploration of said correlation reveals similar patterns for Democrats and Republicans regarding meta-perception (self and group), perception of the outgroup, contact norms (ingroup and outgroup) and contact intention. Some differences in correlation between those variables and past contact experience were observed. For instance, contact norms (ingroup and outgroup) were positively correlated to the experience of negative contact with the outgroup for Republicans but not for Democrats. Similarly, past positive contact with the ingroup was positively correlated to meta-perception (self and group) for Democrats but not Republicans.

This confirms the need to control for their effect in our model. Doing so would allow us to determine the effect of meta-perception, perception of the outgroup and contact norms on contact intention above and beyond the effect of past contact experience and degree of identification to the ingroup[7]. Finally, the difference in strength between self and group meta-perception's relationships with other variables reaffirms our choice of considering them as two separate factors.

Together those results suggest a relationship between those variables and support our idea to explore the combined role of meta-perception (self and group), perception of the outgroup and norms (ingroup and outgroup) on contact intention while controlling for the effect of past contact and ingroup identification.

Structural equation modelling.

We thus tested our Perception-norm model using structural equation modelling (SEM) analysis with latent variables. The analysis was conducted using the *Lavaan* packages (Rosseel, 2012) within *R* (R Core Team, 2022). The self and group meta-perception and the perception of the outgroup latent factor were indicated by 11 items each. Additionally, two items each indicated ingroup and outgroup contact norms latent factors, while seven items indicated the contact intention latent factor. Finally, we also included two covariates: ingroup identification (latent factor indicated by three items) and past con-

[7]These variables could have been considered as another mediator or moderator. However, given the complexity of the Perception-norm model, we decided to leave this on the side for future analyses to avoid creating an over complex model.

Table 8

Descriptive statistics and correlations with 95% confidence intervals for the variable (Study 2)

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. Negative contact (Ingroup)	3.70	1.81										
2. Positive contact (ingroup)	5.39	1.07	-.07 [-.17, .03]									
3. Negative contact (outgroup)	4.46	1.42	.46** [.38, .54]	.22** [.13, .32]								
4. Positive contact (outgroup)	4.38	1.51	.56** [.48, .62]	.15** [.05, .25]	.09 [-.01, .19]							
5. Meta-perception (self)	4.32	1.48	.07 [-.04, .17]	.11* [.01, .21]	-.14** [-.24, -.04]	.34** [.25, .43]						
6. Meta-perception (group)	3.94	1.65	.22** [.12, .32]	.02 [-.08, .12]	.06 [-.04, .16]	.35** [.25, .43]	.54** [.47, .61]					
7. Perception of the outgroup	3.88	1.54	.31** [.22, .40]	-.05 [-.15, .06]	-.05 [-.15, .05]	.50** [.42, .57]	.67** [.61, .72]	.64** [.57, .69]				
8. Contact norms (ingroup)	4.90	1.46	.41** [.32, .49]	.07 [-.04, .17]	.13* [.03, .23]	.61** [.55, .67]	.22** [.12, .31]	.48** [.40, .56]	.47** [.39, .54]			
9. Contact norms (outgroup)	4.52	1.59	.57** [.50, .64]	.03 [-.07, .13]	.21** [.11, .30]	.67** [.61, .72]	.26** [.16, .35]	.46** [.38, .54]	.52** [.45, .59]	.75** [.70, .79]		
10. Contact intention	4.73	1.37	.44** [.36, .52]	.10* [.00, .20]	.07 [-.03, .17]	.71** [.66, .76]	.37** [.28, .45]	.42** [.33, .50]	.51** [.43, .58]	.73** [.67, .77]	.70** [.64, .75]	
11. Ingroup identification	5.10	1.44	.19** [.09, .29]	.42** [.34, .50]	.37** [.28, .45]	.21** [.12, .31]	.05 [-.05, .15]	.24** [.14, .33]	.06 [-.04, .16]	.36** [.27, .44]	.31** [.22, .40]	.30** [.20, .39]

*Note. **p > 0.01 level (2-tailed), *P > 0.05 level (2-tailed). The 11 items for meta-perception (self and group) and perception of the outgroup, the two items for contact norms (ingroup and outgroup) and the seven items for contact intention were averaged to create means scores used to compute these correlations.*

tact experiences (indicated by four manifest variables: positive contact with the ingroup, with the outgroup and negative contact with the ingroup, with the outgroup). We used robust maximum likelihood estimation to compensate for the non-normality of our data distribution. No data were missing.

The first step consisted in testing the measurement model (see Figure 17 in Appendix Appendix G) with a confirmatory factor analysis. The measurement model showed a good fit: robust$\chi^2(1011) = 2008.397$, $p < .000$, robust RMSEA = .05, 90% CI [0.04, 0.05], SRMR = .04, robust CFI = .96[8].

The second step consisted of testing group differences in our Perception-norm model using multi-group SEM analysis with latent variables[9]. In the present study, the absence of model invariance between a constrained model that assumes equality between groups and a model where the indirect paths are freely estimated would indicate that the difference in contact intention as a function of meta-perception, perception of the outgroup and contact norms is dependent on one's group membership (i.e., different for Democrats vs Republicans, French & Finch, 2006). The results from the comparison tests are set out in Table 9 and demonstrate model invariance. This suggests that the relationship between meta-perception and contact intention via perception of the outgroup or norms is not different for Democrats and Republicans. Therefore, we will test our Perception-norm model with our full sample (i.e., without group membership distinction).

Third, we tested our Perception-norm model. To do so, we specified two parallel, serial mediation in which self meta-perception (Xa) and group meta-perception (Xb) predicted perception of the outgroup (M1), which in turn predicted ingroup (M2a) and outgroup (M2b) contact norms, with contact intention (Y) as an outcome variable (path: Xa or Xb → M1 → M2 → Y). The direct path from self and group meta-perception and

[8]Goodness of fit is based on the following convention: SRMR < or = .08 (Hu, Bentler, et al., 1999; MacCallum et al., 1996); RMSEA < OR = .06 (Hu, Bentler, et al., 1999) and CFI >.90 (Byrne, 2001). We acknowledge that some authors suggest a minimum of CFI >.95 for a good fit, yet some argue that a fit between .90 and .95 is judged acceptable (Hu, Bentler, et al., 1999). Thus models with a CFI fit are judged an acceptable fit but need to be taken with more nuanced than the others.

[9]Multi-group SEM uses chi-square tests of difference to compare the impact of addition or removal of parameter constraints on a set of nested models fit. The absence of model invariance is conventionally determined by a change in CFI of more than 0.01. Multi-group SEM informs us whether the models tested differ between two or more groups and how (e.g., difference between group A and group B in regression weights vs error variances).

Table 9

Comparison of model fit statistics for the multigroup Perception-norm model SEM (Study 2).

Model	χ^2	df	CFI	RMSEA	SRMR
Measurement Model	2008.40	1011	.95	.05	.04
Perception-norm model	2517.36	1185	.95	.06	.11
Perception-norm model (alt 1)	2744.11	1185	.93	.06	.17
Perception-norm model (alt 2)	2174.13	1013	.94	.06	.11
Overall Model	2008.40	1011	.95	.05	.04
Democrat only	1668.07	1011	.94	.06	.04
Republican only	1805.41	1011	.92	.07	.05
Configural invariance	3473.48	2022	.93	.06	.04
Metric invariance	3507.04	2062	.93	.06	.05
Scalar invariance	3567.22	2102	.93	.06	.05
Strict factorial invariance	3650.27	2149	.93	.06	.05

Note.χ^2 *and df refer to chi-square and degrees of freedom. CFI, RMSEA and SRMR refer to comparative fit index, root mean square error of approximation and standardised root mean squared residual. Perception-norm model refers to our hypothesised Perception-norm model. See for more details about Perception-norm model (alt 1) and Perception-norm model (alt 2).*

perception of the outgroup to contact intention were also included. Additionally, mediation paths from self (Xa) and group (Xb) meta-perception to contact intention (Y) through the perception of the outgroup only (M1, path: Xa or Xb → M1 → Y) as well as through ingroup (M2a, path: Xa or Xb → M2a → Y) and outgroup (M2b, path: Xa or Xb → M2b → Y) contact norms only were also included. Our two meta-perception measures were allowed to correlate. Our two meta-perception measures were allowed to correlate. Further, two manifest variables of contact intention (i.e., How likely do you think it is that you would strike up a conversation? And how much do you think you would like to strike up a conversation?) were allowed to correlate based on modification indices recommendation, allowing the model to better fit the data. Finally, we control the role of two covariates: ingroup identification and past contact experience. Finally, we control the role of two covariates: ingroup identification and past contact experience. See Figure 1 for a diagram representation of this Perception-norm model[10].

[10]We acknowledge that other or reverse pathways could exist. One alternative model is provided in Appendix F. Comparison tests revealed the Perception-norm model was a better fit for the data.

Figure 8 depicts the results from this model, which resulted in an good model fit: robust $\chi^2(1185) = 2517.364$, $p < .000$, robust RMSEA = .05, 90% CI [0.05, 0.06], SRMR = .114, robust CFI = .95. Estimates for all the covariates can be found in 73 (see Appendix I).

The effect of self meta-perception on contact intention. As the results in Table 10 show, self meta-perception has a positive direct and indirect effect on contact intention. More precisely, self meta-perception has a positive serial indirect effect on contact intention via, consecutively, perception of the outgroup (M1) and ingroup (M2a, b=.05, 95% CI [.01, .08], p=.01) or outgroup (M2b, b=.03, 95% CI [.00, .05], p=.05) contact norms. Additionally, self meta-perception has a negative indirect effect on contact intention via ingroup (b=-.12, 95% CI [-.19, -.04], p <.001) contact norms only. However, the path from self meta-perception to contact intention via the perception of the outgroup (only) or outgroup contact norms (only) was not significant. Finally, the direct effect of self meta-perception on contact intention remained significant when the indirect paths were included in the model (b=.19, 95% CI [.07, .30], p <.001).

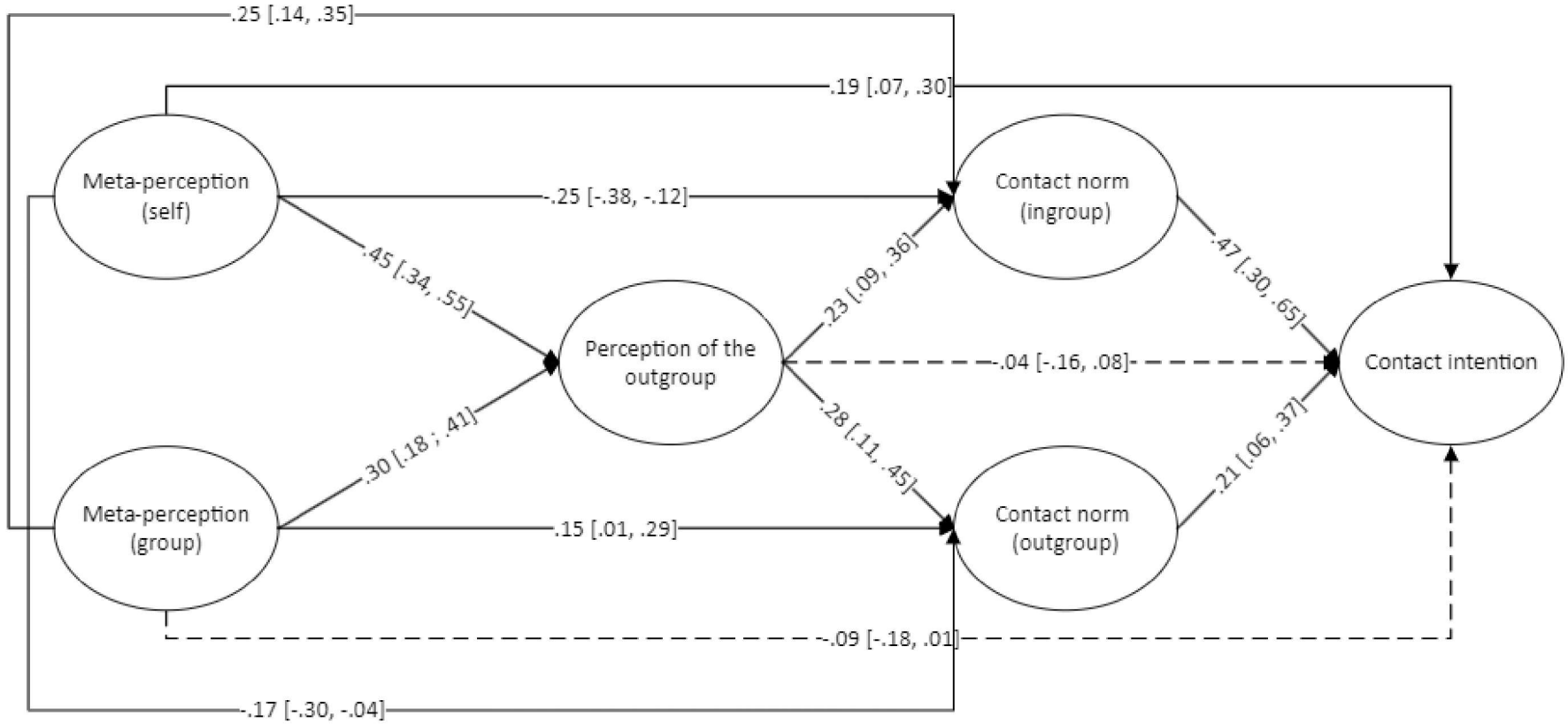
These results suggest that together perception of the outgroup and contact normative support (ingroup and outgroup) mediates the relationship between self meta-perception and intergroup contact intention. However, on their own, ingroup contact norms appear to be a suppressor of self meta-perception effect on contact intention.

The effect of group meta-perception on contact intention. As the results in Table 10 show, group meta-perception has an indirect effect on contact intention. Specifically, group meta-perception has a serial indirect effect on contact intention via the perception of the outgroup (M1) and ingroup (M2a, b=.03, 95% CI [.001, .06], p=.03) but not outgroup (M2b, b=.02, 95% CI [.000, .04], p=.09) contact norms. Further, group meta-perception had a positive direct effect via ingroup contact norms (only, b=.12, 95% CI [.05, .19], p<.001). However, group meta-perception did not have either a direct effect on contact intention (b=-.09, 95% CI [-.18, .01], p=.07) or an indirect effect on contact intention via

Further, we tested an alternative model with norms and contact intention combined due to high covariances between ingroup and outgroup intergroup norms and contact intention in the measurement model. Comparisons reveal Perception-norm and alternative models are distinguishable, but none fit the data better than the other, consequently, we keep our model based on theory. Models are included in Appendix F for transparency.

Figure 8

Empirical fit of structural equation model of the association between meta-perception and contact intention via the perception of the outgroup, contact norms (Perception-norm model).



Note. All paths except the dashed lines are significant. Coefficients are standardized, 95% confidence intervals are reported in square brackets. To simplify the presentation, the measurement model is shown in Figure 17.

Table 10

The summary of the effects of meta-perception (self and group) on contact intention via perception of the outgroup and contact norms (ingroup and outgroup).

		95% CI		
	Effect	**L**	**U**	*p*
Total	.14	.001	.29	.04
Total direct	.06	-.03	.14	.20
Total indirect	.09	-.02	.20	.11
Specific direct paths				
Meta-perception (S) → Contact Intention	.19	.07	.30	.000
Meta-perception (G) → Contact Intention	-.09	-.18	.01	.07
Perception outgroup → Contact Intention	-.04	-.16	.08	.51
Norm (Ing) → Contact Intention	.47	.30	.65	.00
Norm (Out) → Contact Intention	.21	.06	.37	.01
Specific indirect paths				
Meta-perception (S) → Perception outgroup → Norm (Ing) → Contact Intention	.05	.01	.08	.01
Meta-perception (S) → Perception outgroup → Norm (Out) → Contact Intention	.03	.00	.05	.05
Meta-perception (G) → Perception outgroup → Norm (Ing) → Contact Intention	.03	.00	.06	.03
Meta-perception (G) → Perception outgroup → Norm (Out) → Contact Intention	.02	.00	.04	.09
Meta-perception (S) → Perception outgroup → Contact Intention	-.02	-.07	.04	.51
Meta-perception (G) → Perception outgroup → Contact Intention	-.01	-.05	.02	.52
Meta-perception (S) → Norm (Ing) → Contact Intention	-.12	-.19	-.04	.000
Meta-perception (G) → Norm (Ing) → Contact Intention	.12	.05	.19	.00
Meta-perception (S) → Norm (Out) → Contact Intention	-.04	-.07	.00	.06
Meta-perception (G) → Norm (Out) → Contact Intention	.03	.00	.07	.07

the perception of the outgroup (b=-.01, 95% CI [-.05, .02],p=.52), or outgroup (b=.03 95% CI [.000, .07], p=.07) contact norms only. These results suggest that the perception of the outgroup and ingroup normative support fully mediates group meta-perception influence on contact intention. Unlike for self-meta-perception, ingroup contact norms do not appear to be a suppressor but rather a classical mediator of the effect of group meta-perception on contact intention.

The Relation between meta-perception (self and group) and perception of the outgroup. As expected based on previous research findings, one's perception of the outgroup is predicted by their self (b=.45, 95% CI [.34, .55], p <.001) and group (b=.30, 95% CI [.18, .41], p <.001) meta-perception. And the perception of the outgroup mediates the effect of meta-perception on intergroup contact intention and norms. Further, contrast analysis reveals no difference between the indirect effect of self vs group meta-perception on intergroup contact engagement, suggesting both factors have a similar impact.

Discussion

This study aimed to test our Perception-norm model whereby one's perception in a specific intergroup context influences their engagement in intergroup contact. To do this, we measured different aspects of meta-perception, perception of the outgroup and contact norms. Additionally, we controlled for the impact of individual differences in contact experiences and group identification. Finally, we measured Democrats' and Republicans' intentions to interact with members of the opposite party. We posit self and group meta-perception will predict contact intention via the perception of the outgroup and contact norms (ingroup and outgroup).

These results support our Perception-norm model revealing that both self and group meta-perception significantly affect contact intention. While a direct (positive) link was found between self but not group meta-perception and contact intention, the relationship between the two can also be partly explained by the mediating role of perception of the outgroup and contact norms (ingroup and outgroup). Precisely, results suggest that when Democrats and Republicans consider being seen positively by the other party (positive self and group meta-perception), their perception of the outgroup will be more positive. This will, in turn, influence their perception of normative support for intergroup contact (i.e., perception of higher support for intergroup interaction) from the ingroup and the outgroup (for self meta-perception only) and predict a higher degree of intergroup contact engagement intentions.

Additionally, while ingroup contact norms (only) mediated the effect of group meta-perception on contact intention, it appears to suppress the effect of self meta-perception on said contact intention. In this context, a suppressor is an "inconsistent mediation model where the mediated and direct effect has opposite signs" (Mackinnon et al., 2000, p.179). Often, they represent a disadvantageous mediator (e.g., increase rather than reduce a negative effect). Here, it suggests that positive self meta-perception reduces contact intention by decreasing perceived ingroup support for intergroup contact (i.e., ingroup contact norms). This surprising effect will be discussed in further detail in the discussion of this chapter.

Further, results support the previously established relationship in which (self and group) meta-perception predicts the perception of the outgroup. We also found evidence of the latter mediating the relationship between meta-perception (self and group) and contact intention, but only in combination with contact norms. Finally, no significant difference was found between the indirect effect of self vs group meta-perception.

Altogether, despite the small size of the indirect effect, our results suggest that meta-perception influences intergroup contact engagement intention and supports the role of perception of the outgroup and contact norms (ingroup and outgroup) in the process. Our results further support the already established conceptualisation of the perception of the outgroup as a mediator of meta-perception effects. Our results also reinforce the idea of conceptualising self and group meta-perception as distinct, given their different role and relationship with our mediator or suppressor. Finally, data were collected the month before the U.S. Presidential election. In that climate, Republicans were still in power, and group membership and perception of each other were made salient in the media on a constant basis. However, after Joe Biden's election, the power between the political party changed. After a few months, the media focus on the political divide changed and perhaps became less salient to typical Americans. It will thus be interesting to examine how our model compares to the above results in such a different context.

Study 3

Study 3 builds on Study 2's results. Following the same methodology, we first aim to replicate the findings of Study 2, and then we aim to extend those findings by controlling for the effect of the political environment (i.e., right vs left-wing media or companies participants were immersed in).

To do so, we once again measure meta-perception, perception of the outgroup and contact norms. Importantly, it is a test of our Perception-norm model in a changed intergroup context. Indeed, Study 3 is set after the 2020 U.S. Presidential election and the change of power it created. Additionally, the mediatic context surrounding Democrats and Republicans would likely be different from the coverage right before the elections. As a result, the perceptions between both groups are likely less salient.

Studies have shown that Democrats and Republicans tend to get their news in a political bubble (Pazzanese, 2021). Further, a long history of research has highlighted the link between media, behaviour and intergroup relations. For instance, mass media valence was found to affect prejudice level (Mutz & Goldman, 2010), and many studies on vicarious contact support this finding (Mazziotta et al., 2011; Paluck, 2009; Schiappa et al., 2005; Vezzali & Stathi, 2020). If all media are not equal, evidence suggests that news media relates to more negative prejudice than entertainment media (Visintin et al., 2017). Overall, evidence suggests that media play a role in our everyday life and influences our attitudes and beliefs.

Consequently, after trying to replicate Study 2, we explored a new variable: the political environment. The political environment was measured by evaluating participants' consumption of and use of left- and right-wing media and companies (e.g., CNN, Fox News, etc.). On top of the general hypothesis described earlier (see The present studies section), we also expect a difference in how the Perception-norm model works when controlling for participants' political environment. However, we have no explicit expectation of how this will impact our results.

Method

Participants.

Five hundred twenty-two (522)[5] participants were recruited using Amazon's Mechanical Turk (MTurk) to take part in this survey on "perceptions and experiences of politics and social interactions" between May 7th and July 16th 2021 (after the U.S. Presidential election and Joe Biden's inauguration). One hundred fifty-eight (158) participants were excluded based on the following criteria: a) they asked for their data to be excluded or withdrawn at the end of the survey ($N = 56$); b) the quality of the data did not meet our minimal standard ($N = 97$)[6]; c) they indicate being a non-native English speaker (N=3); e) they indicated not being a U.S. Citizen ($N = 2$). Additionally, the task was only presented to participants situated in the U.S. and with a HIT Approval Rate for all Requesters' HITs greater than or equal to 95%. The final sample comprised 364 participants (36.5% Female, 64% Male, and 0% other/non-binary/prefer not to say) aged between 21 and 74 ($M = 36$,

SD = 10.6) and 76% White. The final sample included 72% of Democrats and 28% of Republicans.

Sample size was calculated using Soper (2019) online tool as in Study 2. An effect size of d= .20 and a desired power of 80% were specified. With 6 latent variables and 51 observed variables the minimum sample size recommended was 403. While we recruited over 500 participants, only 364 were included in the final sample. This is slightly Soper (2019) online tool recommendation but still highly over the other recommendations (e.g., 150 participants (Tinsley & Tinsley, 1987); 100 per group (Kline, n.d.)).

Ethics.

The PSY S-REC – UEA School of Psychology Research Ethics Subcommittee approved the amendments made to the Study 2 project on March 12th 2021 (reference: 2020-1034-001994). The study was advertised through Amazon's Mechanical Turk (MTurk) (convenience sample), and participants were compensated $.50 for their time in this 10-minute study.

Procedure.

Study 3 materials and procedure were nearly identical to Study 2. At first, the survey was available only to workers who completed Study 2. Results from the two studies were linked using the anonymous MTurk Worker id. Participants' compensation was increased ($0.50) to motivate them to participate in the replication. After that, the survey was made available to any participants to increase our sample size[11].

Participants answered some demographic questions, including political affiliation and different scales designed to measure meta-perception (self and group), perception of the outgroup, ingroup and outgroup contact norms, contact intention, ingroup identification and past contact experience. Additional scales were included (see Appendix E).

[11]Only 78 participants taking part in Study 2 signed up again and completed Study 3. However, the analysis revealed no significant differences between our two samples regarding Age, Gender, Sexual Orientation or Ethnicity. However, studies 2 and 3's proportions of Democrats and Republicans were significantly different, with a larger proportion of Democrats than Republicans taking part in Study 3. Finally, no comparison of Study 2 and Study 3 (same participants only) comparative analyses was conducted due to differences in group proportion and sample size.

As in Study 2, after the survey ended, participants accessed the debrief page, providing them with more information regarding the purpose of the experiment and were asked to consent to the use of their data.

Material.

Measures identical to measures used in Study 2. Political affiliation, perception of contact opportunity, ingroup identification, future contact intentions, meta-perception, perception of the outgroup, and contact norms (ingroup and outgroup) were measured using the same items as in Study 2.

Political environment. In addition to previous measures regarding intergroup contact and contact norms, a few items regarding participants' social and media habits were added. More precisely, participants were asked, "How much do you (watch/read/patronize) the following" from 1 (not at all) to 7 (very often).

The items cover various aspects of media habits, including TV networks (e.g., CNN, Fox News), websites and social media, TV shows, and companies they might frequent. Each aspect is represented by one or two companies or outlets stereotypically targeting Democrats and one or two stereotypically targeting Republicans. Media consumption and companies' frequentation habits items were then divided into two categories: left-wing and right-wing media and social environment (see Table 11).

Table 11

Items of the political environment immersion scale as a function of the type of media or environment and political side.

Type	Left-wing	Right-wing
TV Networks	NPR CNN	Fox News OANN (One America News Network)
Website and Social Media	Washington Post Left-leaning Social Media Accounts	Breitbart Conservative Social Media Accounts
TV Shows	Modern Family Orange is the New Black	Duck Dynasty NCIS
Companies	Starbucks Whole Foods	Hobby Lobby Chick-fil-A

Results

Descriptives statistics and correlation.

Descriptive statistics and correlations for the observed items are set out in Table 12. As in Study 2, we found significant positive relationships between meta-perception (self and group), perception of the outgroup, contact norms (ingroup and outgroup) and contact intention to one exception. Indeed, unlike in Study 2, self meta-perception was not correlated to contact intention. Contact norms, however, were still strongly related to contact intention. Further, past contact and ingroup identification were correlated to some or all the variables. Finally, the political environment was positively correlated to all our variables except for self meta-perception (no significant correlation). Further, as in Study 2, we explored the correlation separately for each group. These are presented in Table 70 and Table 71 (see Appendix H) , along with the descriptives statistics. The same pattern was found for Democrats and Republicans for meta-perception (self and group), perception of the outgroup, contact norms, contact intention and political environment. However, we found some differences regarding past experience, such that for instance, self meta-perception correlated positively to positive contact with the outgroup and negative contact with the ingroup for Democrats but not for Republicans. Similarly, contact intention was more highly positively correlated to negative contact with the outgroup and positive contact with the ingroup for Republicans.

Together those results suggest a relationship between those variables and support our idea to explore the combined role of meta-perception (self and group), perception of the outgroup and norms (ingroup and outgroup) on contact intention while controlling for the effect of past contact, ingroup identification and political environment.

SEM: A test of the Perception-norm model.

First, we started by trying to replicate Study 2's findings. We use the *Lavaan* package (Rosseel, 2012) within *R* (R Core Team, 2022) to conduct SEM analysis with latent variables to test our Perception-norm model. Perception of the outgroup, self and group meta-perception latent factors were indicated by 11 items each. Four items indicated con-

Table 12

Descriptive statistics and correlations with 95% confidence intervals for the variable (Study 3).

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. Negative contact (ingroup)	4.07	1.68										
2. Positive contact (ingroup)	5.32	1.10	.08 [-.03, .18]									
3. Negative contact (outgroup)	4.50	1.38	.49** [.41, .57]	.29** [.19, .39]								
4. Positive contact (outgroup)	4.67	1.42	.61** [.54, .68]	.31** [.20, .40]	.20** [.10, .30]							
5. Meta-perception (self)	4.27	1.53	.12* [.01, .22]	.18** [.07, .28]	-.04 [-.15, .07]	.23** [.13, .33]						
6. Meta-perception (group)	4.11	1.67	.28** [.17, .37]	.14** [.03, .25]	.07 [-.03, .18]	.34** [.24, .44]	.60** [.53, .67]					
7. Perception of the outgroup	3.94	1.51	.28** [.16, .38]	.10 [-.02, .21]	-.00 [-.12, .11]	.38** [.27, .47]	.64** [.57, .71]	.67** [.60, .73]				
8. Contact norms	4.94	1.26	.57** [.50, .64]	.19** [.09, .29]	.19** [.09, .29]	.66** [.60, .72]	.20** [.09, .30]	.44** [.35, .52]	.40** [.30, .49]			
9. Contact intention	4.91	1.34	.57** [.49, .64]	.24** [.13, .34]	.21** [.11, .31]	.69** [.63, .74]	.17** [.06, .27]	.34** [.25, .44]	.42** [.32, .51]	.80** [.76, .84]		
10. Ingroup identification	5.31	1.28	.36** [.26, .45]	.35** [.25, .44]	.40** [.31, .49]	.31** [.21, .41]	.08 [-.03, .18]	.27** [.16, .36]	.13* [.02, .24]	.52** [.44, .59]	.39** [.30, .48]	
11. Political environment	3.95	0.39	.05 [-.06, .16]	-.10 [-.21, .01]	-.10 [-.21, .01]	.09 [-.02, .20]	.04 [-.07, .14]	.04 [-.06, .15]	.04 [-.08, .15]	.04 [-.07, .15]	.08 [-.03, .19]	-.02 [-.13, .08]

*Note. **p > 0.01 level (2-tailed), *P > 0.05 level (2-tailed). The 11 items for meta-perception (self and group) and perception of the outgroup, the two items for contact norms (ingroup and outgroup, i.e., those items were combined to create a general contact norms score), the seven items for contact intention and the ten items for political environment (with left-wing items reverse coded) were averaged to create means scores used to compute these correlations.*

tact norms' latent factor, while seven items indicated the contact intention latent factor. We controlled for ingroup identification (latent factor indicated by three items) and past contact experience (indicated by four manifest variables). We used robust maximum likelihood estimation to compensate for the non-normality of our data distribution. About 4% of the data were missing completely at random (MCAR); consequently, we added the full information maximum likelihood estimation (FIML) argument.

First, we tested the measurement model (see Appendix G) using confirmatory factor analysis. The measurement model had an good fit: robust $\chi^2(1017) = 1772.035$, $p < .001$, robust RMSEA = .05, 90% CI [0.05, 0.06], SRMR = .04, robust CFI = .95[8].

Second, we tested our Perception-norm model using multi-group SEM analysis with latent variables [9]. In the present study, the absence of model invariance between a constrained model that assumes equality between groups and a model where the indirect paths are freely estimated would indicate that the difference in contact intention as a function of meta-perception, Perception of the outgroup and social norms is dependent on one's group membership (i.e., different for Democrats vs Republicans). The results from the comparison tests are set out in Table 13 and demonstrate model invariance. This suggests the absence of a difference between Democrats and Republicans regarding how our Perception-norm model works. Therefore, we will explore the below mediation paths using our full sample (i.e., without group membership distinction). [9]

Third, we tested our social Perception-norm model. To do so, we specified two parallel serial mediations in which self meta-perception (Xa) and group meta-perception (Xb) predicted perception of the outgroup (M1), which in turn predicted contact norms (M2)[12] with contact intention (Y) as an outcome variable (path: Xa or Xb → M1 → M2 → Y) and controlling for the effect of ingroup identification and past contact experience. The direct path from self and group meta-perception and perception of the outgroup to contact intention were also included. Additionally, mediation paths from self (Xa) and group (Xb) meta-perception to contact intention (Y) through the perception of the outgroup only (M1, path: Xa or Xb → M1 → Y) as well as through contact norms only (M2, path: Xa or Xb → M2 → Y) were also included. Our two meta-perception measures were allowed to

Table 13

Comparison of model fit statistics for the multigroup Perception-norm model SEM (Study 3).

Model	χ^2	df	CFI	RMSEA	SRMR
Measurement Model	1772.04	1017	.95	.05	.04
Perception-norm model	2187.97	1195	.94	.05	.10
Perception-norm model (alt 1)	2424.85	1192	.92	.06	.13
Perception-norm model (alt 2)	1821.35	1014	.94	.05	.10
Overall Model	1827.37	1019	.95	.05	.04
Democrat only	1848.08	1019	.93	.06	.04
Republican only	1724.51	1019	.86	.08	.07
Configural invariance	3572.60	2038	.91	.07	.05
Metric invariance	3620.73	2079	.91	.07	.06
Scalar invariance	3667.89	2120	.91	.07	.06
Strict factorial invariance	3751.55	2167	.90	.07	.06
Measurement (B)	2721.80	1629	.94	.04	.04
Perception-norm model (B)	3384.75	1855	.92	.05	.11
Overall Model (B)	2777.29	1631	.94	.05	.04
Democrat only (B)	2768.20	1631	.92	.05	.05
Republican only (B)	2726.02	1631	.83	.08	.07
Configural invariance (B)	5494.22	3262	.89	.06	.05
Metric invariance (B)	5595.15	3314	.89	.06	.06
Scalar invariance (B)	5666.99	3366	.89	.06	.06
Strict factorial invariance (B)	5775.81	3425	.88	.06	.06

Note.χ^2 *and df refer to chi-square and degrees of freedom. CFI, RMSEA and SRMR refer to comparative fit index, root mean square error of approximation and standardised root mean squared residual. Perception-norm model refers to our hypothesised Perception-norm model, and the Perception-norm model (B) refers to the same model but controlling for the political environment. See for more details about the Perception-norm model (alt 1) and Perception-norm model (alt 2).*

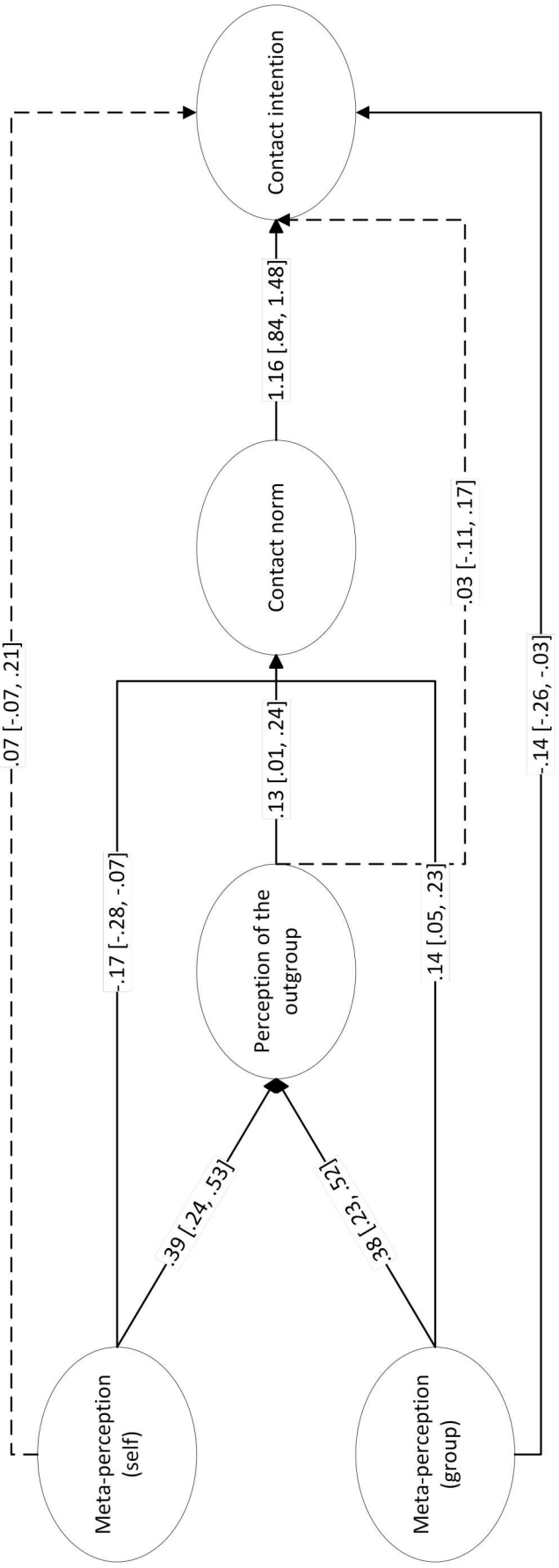
correlate.

Figure 9 depicted the results from this model, which resulted in a acceptable model fit: robust $\chi^2(1195) = 2187.97$, $p < .001$, robust RMSEA = .05, 90% CI [0.04, 0.05], SRMR = .10, robust CFI = .94[8]. Estimates for all the covariates can be found in 74 (see Appendix I).

[12]In this study, due to high covariance, ingroup and outgroup norms could not be distinguished statistically. Consequently, they were combined to form one general contact norm latent factor.

Figure 9

Empirical fit of structural equation model of the association between meta-perception and contact intention via the perception of the outgroup, contact norms (Perception-norm model).



The effect of self meta-perception on contact intention. As demonstrated by results displayed in Table 14, self meta-perception's effect on contact intention is fully mediated by contact norms. More precisely, neither a direct effect of self meta-perception (b=.07, 95% CI [-.07, .21], p=.34) nor its mediation by the perception of the outgroup only (b=.01, 95% CI [-.04, .07], p=.64) or the serial mediation via the perception of the outgroup and contact norms (b=.06, 95% CI [.000, .12], p=.07) were significant. However, we found a negative indirect effect of self meta-perception on contact intentions via contact norms (M2, b=-.20, 95% CI [-.33, -.07], p= <.001). These results suggest that, as in Study 2, contact norms act as a suppressor (rather than a mediator) of the self meta-perception effect.

Table 14

The summary of the effects of meta-perception (self and group) on contact intention via perception of the outgroup and contact norms.

		95% CI		
	Effect	**L**	**U**	***p***
Total	.06	-.09	.20	.46
Total direct	-.04	-.11	.03	.23
Total indirect	.10	-.03	.23	.20
Specific direct path				
Meta-perception (S) → Contact Intention	.07	-.07	.21	.34
Meta-perception (G) → Contact Intention	-.14	-.26	-.03	.01
Perception outgroup → Contact Intention	.03	-.11	.17	.64
Norms → Contact Intention	1.16	.84	1.48	.00
Specific indirect path				
Meta-perception (S) → Perception outgroup → Norms → Contact Intention	.06	.00	.12	.07
Meta-perception (G) → Perception outgroup → Norms → Contact Intention	.05	.00	.11	.06
Meta-perception (S) → Perception outgroup → Contact Intention	.01	-.04	.07	.64
Meta-perception (G) → Perception outgroup → Contact Intention	.01	-.04	.07	.64
Meta-perception (S) → Norms → Contact Intention	-.20	-.33	-.07	.00
Meta-perception (G) → Norms → Contact Intention	.16	.05	.27	.000

The effect of group meta-perception on contact intention. Group meta-perception, directly and indirectly, predicts intergroup contact engagement intention. As in Study 2, the effect of group meta-perception (vs self meta-perception) on contact engagement is mediated (vs suppressed) by contact norms (only - b=.16, 95% CI [.05, .27], p <.001). Further, the negative direct effect of group meta-perception on contact intention remains significant when the indirect paths were included in the model (b=-.14, 95% CI

[-.26, -.03], p=.01). However, just like self meta-perception, group meta-perception did not influence contact intention via either perception of the outgroup (only - b=.01, 95% CI [-.04, .07], p=.64) or the serial mediation (via the perception of the outgroup and contact norms - b=.05, 95% CI [.000, .11], p=.06). These effects suggest that group meta-perception effect on contact intention was partially mediated by contact norms but not the perception of the outgroup.

The relationship between meta-perception (self and group) and perception of the outgroup. As expected based on previous research findings and Study 2 results, one's perception of the outgroup is predicted by their self (b=.39, 95% CI [.24, .53], p<.001) and group (b=.38, 95% CI [.23, .52], p<.001) meta-perception. However, unlike in Study 2, we did not find evidence that perception of the outgroup mediates meta-perception's effect on intergroup contact intention and norms. Finally, self and group meta-perception had, again, distinct effects. As mentioned earlier, self meta-perception did not directly affect contact intention, and contact norms suppress its indirect effect. Group meta-perception, on the other hand, had positive direct effect and indirect effects on contact intention via contact norms.

SEM: Controlling for political environment.

We extended our results by including a new covariate in the model: political environment. Political environment refers to the type of media (e.g., TV shows, social media, news sources) or establishments where participants choose to immerse themselves.

As in Study 2 replication, we conducted SEM analysis with latent variables using the *Lavaan* package (Rosseel, 2012) within *R* (R Core Team, 2022). The latent factor structure was the same. The only change was the addition of a third control variable: political environment (latent factor indicated by 11 items), which reflects participants' engagement in left- and right-wing media and businesses. As for Study 2 replication, about 4% of the data were missing completely at random (MCAR), and the full information maximum likelihood estimation (FIML) argument was used.

The measurement model (see Appendix G) showed an acceptable fit: robust $\chi^2(1629) = 2721.803$, $p < .001$, robust RMSEA = .04, 90% CI [0.04, 0.06], SRMR = .04, robust

CFI = .94[8].

As in the previous analysis, we conducted multi-group SEM. Results are displayed in Table 13 and demonstrate invariance (i.e., absence of difference between Democrats and Republicans). Therefore, once again, we will proceed to test our model using our full sample (i.e., no group membership distinction)[9].

Finally, we tested our social Perception-norm model. As in Study 2 and its replication above, we specified two parallel, serial mediations (see Study 2 description for details) and controlled for ingroup identification, past contact experiences and political environment.

Figure 10 depicts the results from this model, which resulted in an acceptable model fit: robust $\chi^2(1855) = 3384.745$, $p < .000$, robust RMSEA = .05, 90% CI [0.04, 0.05], SRMR = .11, robust CFI = .92. Estimates for all the covariates can be found in 75 (see Appendix I).

As results displayed in Table 15 demonstrate, both self and group meta-perception's indirect effect on contact intention disappear when controlling for the political environment. Indeed, neither the serial nor the simple mediation paths were significant for both self and group meta-perception. Only the direct effect of group meta-perception on contact intention was significant (b=-.15, 95% CI [-.26, -.04], p <.001). By taking a closer look, we can see that the direct link between self and group meta-perception toward norms disappears when controlling for the political environment. Indeed, contact norms were directly predicted by both in Study 2 replication, an effect that disappears when adding our new control variable.

Overall, when the political environment is included, the results no longer support our model, suggesting that self and group meta-perception's effect on contact intention via the perception of the outgroup and contact norms depends on the intergroup context (i.e., broader socio-cultural context illustrated by the political environment Democrats and Republicans immerse themselves in).

Figure 10

Empirical fit of structural equation model of the association between meta-perception and contact intention via the perception of the outgroup, contact norms (Perception-norm model - controlling for Political Environment).

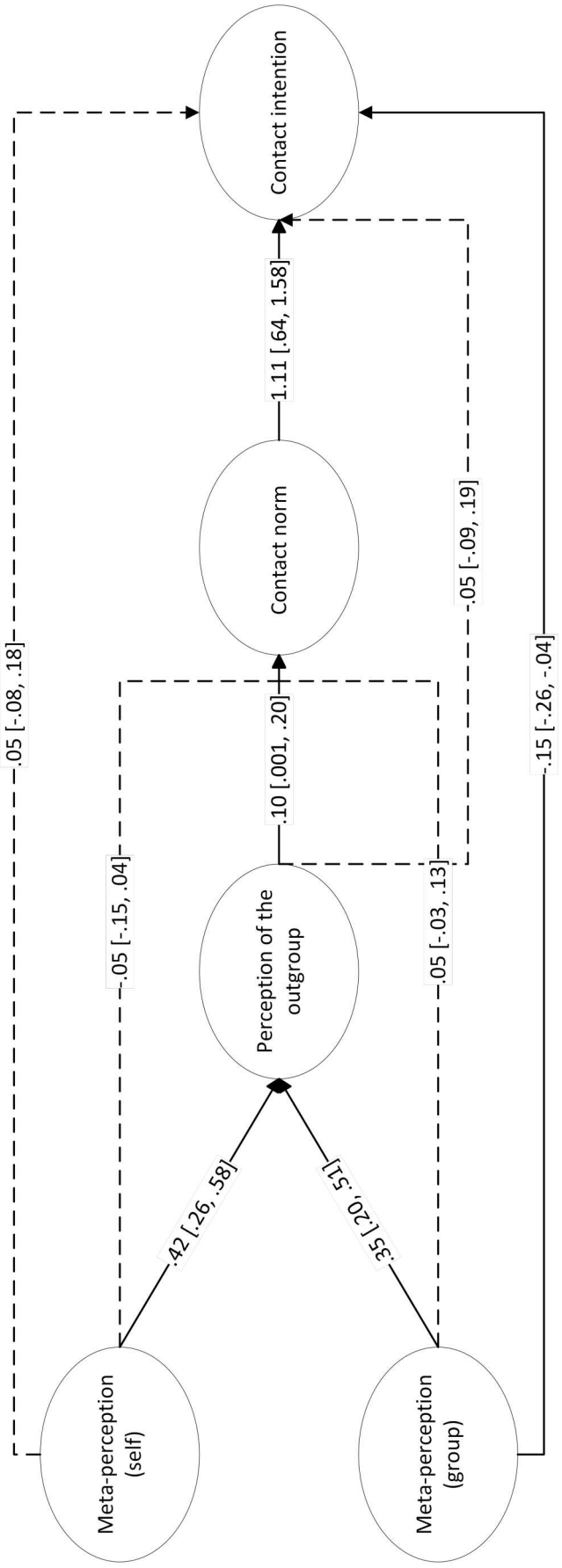


Table 15

The summary of the effects of meta-perception (self and group) on contact intention via perception of the outgroup and contact norms (controlling for Political Environment).

		95% CI		
	Effect	**L**	**U**	***p***
Total	.07	-.07	.21	.33
Total direct	-.04	-.12	.03	.29
Total indirect	.11	-.001	.22	.05
Specific direct path				
Meta-perception (S) → Contact Intention	.05	-.08	.18	.44
Meta-perception (G) → Contact Intention	-.15	-.26	-.04	.01
Perception outgroup → Contact Intention	.05	-.09	.19	.48
Norms → Contact Intention	1.11	.64	1.58	.00
Political Environment → Contact Intention				
Specific indirect paths				
Meta-perception (S) → Perception outgroup → Norms → Contact Intention	.05	-.01	.10	.09
Meta-perception (G) → Perception outgroup → Norms → Contact Intention	.04	-.01	.09	.09
Meta-perception (S) → Perception outgroup → Contact Intention	.02	-.04	.08	.48
Meta-perception (G) → Perception outgroup → Contact Intention	.02	-.03	.07	.48
Meta-perception (S) → Norms → Contact Intention	-.06	.-.16	.05	.27
Meta-perception (G) → Norms → Contact Intention	.06	-.04	.15	.24

Discussion

This study builds on Study 2's findings. Following the same methodology, we first aimed to replicate the findings of Study 2 that supported our Perception-norm model in a changed intergroup context. To do this, we collected data from Democrats and Republicans a few months after the U.S. presidential election when the political context had changed (i.e., Democrats in power, reduced attention paid to the groups' perceptions of each other, and political divide in the media). As in Study 2, we measured different aspects of meta-perception, perception of the outgroup and contact norms. Additionally, we controlled for the impact of individual differences in contact experiences, group identification, and political environment. Finally, we measured Democrats' and Republicans' intentions to interact with members of the opposite party. We posited self and group meta-perception will predict contact intention via the perception of the outgroup and contact norms (ingroup and outgroup).

The results from this new study partially support our social Perception-norm model by demonstrating that both self and group meta-perception significantly affect contact in-

tention via contact norms. A positive direct effect of group (but not self me–a-perception - i.e., reversed from Study 2) on contact intention was found. Further, the relation between the three variables can also be explained by the mediational role of contact norms. Precisely, results suggest that when Democrats and Republicans consider their *group* as being seen positively by the other party (group meta-perception), they tend to perceive higher (i.e., more positive) normative support for intergroup contact (from both groups), which lead to a higher degree of intergroup contact engagement intention. However, for self meta-perception, contact norms acted as a suppressor (i.e., special mediation case where the direct and indirect effects have opposite signs), suggesting that when Democrats and Republicans believe to be *personally* seen in a positive way, they tend to have reduced interest in future interaction (i.e., less contact intention) as they perceive less normative support for intergroup contact from both groups (i.e., reduced contact norms). Further, unlike previous studies (Kteily & Hodson, 2016; MacInnis & Hodson, 2012; O'Brien et al., 2018; Pauketat et al., 2020; Stathi et al., 2020), including results from Study 2, while the perception of the outgroup was predicted by meta-perception (self and group), it did not mediate its effect on contact intention. Finally, as hypothesised, direct and indirect effects from self and group meta-perception differed. Altogether, our results partially support our Perception-norm model but did not (exactly) replicate Study 2 findings. And, these results need to be taken carefully as they do not represent a perfect fit of the data. Other models with better fit might exist and this needs to be taken into account when considering the generalisation of these results.

Second, we controlled for a new covariate: political environment. When controlling for the effect of the political environment, the indirect effect of self and group meta-perception disappeared. These results and the difference between studies 2 and 3 suggest that meta-perception, perception of the outgroup and contact norms (combined) effects on intergroup contact engagement depend on the context. Precisely, the mediatic (e.g., pre vs post-election news topic) and general socio-cultural (e.g., Social media or tv shows consumed) along with the power dynamic between Democrats and Republicans of the participants influenced the effect of perception and norms on intergroup contact engagement. With Democrats and Republicans getting news in a political bubble (Pazzanese, 2021),

this may affect their perception, highlighting differences between their groups beyond the individual level. Indeed, while the news might not change their perceptions, it might have an impact beyond it. This is coherent with studies finding that change at the group level is more effective than change at the individual level (Paluck et al., 2021). However, these results need to be taken carefully as they are mainly presumptions. First, a test of moderation exploring in more detail the influence of said political bubbles would allow us to draw stronger conclusions. Second, differences in studies 2 and 3 could also be the results of differences in the sample. While some analyses did not suggest differences between the two studies in terms of variables average, etc. We still need to acknowledge the fact that while Study 2 was balanced (54.5% Democrats), Study 3 had a sample that was in majority identifying to the Democrat party (i.e., 72%). Altogether, this suggests further exploration.

Altogether, these results partially support our Perception-norm model and reinforce the importance of considering norms, meta-perception, and perception of the outgroup. They further support the link between meta-perception and perception of the outgroup. However, they do not support the latter's mediational role. Finally, differences between studies 2 and 3 are shown following the addition of political environment as a new covariate to the model, highlighting the importance of considering the context. This lets us wonder what it would be like in a new intergroup context with a different group membership definition (e.g., Race instead of attitudes) and group statuses (e.g., advantage vs disadvantage).

Study 4

Building on results from studies 2 and 3, Study 4 tests our Perception-norm model in a new intergroup context: the racial context in the U.S. Both studies presented before tested the combined effect of perceptions and contact norms in intergroup contact engagement. Evidence suggests that there is an indirect role of meta-perception in intergroup contact engagement via the perception of the outgroup and contact norms. However, results from Study 3 also suggest a role of the broader political environment. We thus thought it interesting to explore a new intergroup context where the power relations and

mediatic representations are different. We decided to focus on the racial context in the U.S. with Blacks and Whites as the power dynamic is systemically unbalanced, unlike in the political context. And where the group membership is attributed mainly to physical characteristics and not to attitudes (i.e., personal opinion). Results and implications are discussed.

Obviously, a considerable amount of literature has examined intergroup contact between Black or African-American and White people in the U.S. Indeed, Allport et al. (1954) original contact hypothesis was largely based in this context and was later used in arguments supporting school desegregation in the 1950s and 60s. Past research has demonstrated a significant effect of direct and indirect positive intergroup contact on reducing prejudice of Whites towards Blacks and increasing intergroup contact intentions (Paluck et al., 2019). Less research has examined the effect of contact on attitudes held by Black people, and some of these findings are more nuanced, suggesting, for example, that positive contact with White people might reduce support for collective action (Hässler et al., 2020b). Here, we test the Perception-norm model as it applies to contact intentions for both Black and White people. As mentioned in The present studies we expect to find differences between Black and White people in the effect of meta-perception, perception of the outgroup and contact norms on contact intention, as suggested by the different societal positions of these groups.

Method

Participants.

We recruited 464 participants[5] from the online platform Prolific to take part in our survey on "perception and experience of social interaction" (15min) in exchange for $1 (£0.84). 127 participants were excluded based on the following criteria: a) they asked to be removed from our sample ($N = 12$); b) their response was incomplete ($N = 0$); c) the quality of their data did not meet our minimal standard ($N = 104$)[6]; d) their data did not match the pre-screener ($N = 11$). Additionally, a pre-screening of the participants was realised to ensure that only White/Caucasian ($N = 185$) and Black/African ($N = 152$) American residents would participate in our study. Our final sample consisted of 337 American

residents (52% Female, 46% Male, 2% other/Non-binary/Prefer not to say) aged between 18 and 72 (M = 31.8, SD= 10.74).

Again, sample size was estimated usingSoper (2019) online tool. The same effect size (d=.20) and power (80%) as Study 2 and 3 were specified. With eight latent variables and 30 observed variables, a minimum sample size of 116 was recommended.

Ethics.

The PSY S-REC – UEA School of Psychology Research Ethics Subcommittee approved the project on July 7th 2021 (reference: 2020-1034-001994). The study was advertised through Prolific (convenience sample), and participants were compensated $1 for their time in this 10-minute study.

Procedure.

Participants were recruited via Prolific and offered ($1) in exchange for their involvement. The survey was compiled using the Qualtrics platform and started with a brief explanation of the study and participants' rights. The survey was composed of multiple scales measuring the following concept: meta-perception (self and group), perception of the outgroup, ingroup and outgroup contact norms, contact intention, ingroup identification and perception of contact. At the end of the survey, participants were presented with a debrief sheet with a more detailed presentation of the study. They were also offered the possibility to withdraw from the survey. Independently of their answer, participants then received their compensation.

Material.

Measures identical to measures used in Study 2. Ingroup identification, perception of outgroup, contact intention, ingroup and outgroup social norms were measured using the same items as in studies 2 and 3, tailored to the participants' racial group.

Meta-perception (self and group), perception of the outgroup. Self and group meta-perceptions, as well as the perception of the outgroup, were measured using

4-items relative to participants' perceptions of competence, warmth/sociability, morality, and overall positivity based on Livingstone et al. (2019) semantic differential scale. Participants were asked to rank the items on a 1 (positively-anchored scale end) to 7 (negatively-anchored scale end). Items were reverse coded and used as latent variables with higher *score* representing more positive perceptions.

Other measures. Other measures were collected, including: perceived contact opportunity, future contact, legal and mediatic normative context, and evaluative concerns (see Appendix E).

Results

Descriptives statistics and correlations.

As in studies 2 and 3, we started by exploring our variables' correlations and descriptive statistics (see Table 72). There were positive correlations between meta-perception (self and group), perception of the outgroup, norms (ingroup and outgroup) and contact intention (conversation and general). Further, there was past contact experience and ingroup identification related to some of the variables. Further, we also explored the correlation for each group separately. These are presented in Table 16 and Table 16, along with the descriptives statistics. Exploration of the correlation table reveals some differences between the two groups. For instance, perception of the outgroup was positively correlated to contact intention (general and conversation) and group meta-perception was positively correlated to contact intention (general) for Black but not White participants. Similarly, for Black participants group meta-perception was more strongly positively correlated to contact intention (conversation) than for Whites. Further, multiple differences can be observed in the correlations between past contact experiences and meta-perception (self and group), perception of the outgroup, contact norms (ingroup and outgroup) and contact intentions (conversation and general).

As in studies 2 and 3, these results support our hypothesis of the context-perception model in which meta-perception (self and group), perception of the outgroup, and norms (ingroup and outgroup) have a combined role on contact intention (conversation and general). And suggest controlling for the role of past contact experience.

Table 16

Descriptive statistics and correlations with 95% confidence intervals for the variable for Black participants (Study 4).

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11
1. Negative contact (ingroup)	3.33	1.33											
2. Positive contact (ingroup)	2.79	1.21	.37** [.22, .49]										
3. Negative contact (outgroup)	4.81	1.27	-.39** [-.51, -.25]	-.20* [-.34, -.05]									
4. Positive contact (outgroup)	5.49	1.26	-.07 [-.22, .08]	-.46** [-.57, -.33]	.35** [.21, .48]								
5. Meta-perception (self)	4.53	1.45	-.32** [-.45, -.17]	-.29** [-.43, -.14]	.52** [.40, .62]	.33** [.18, .46]							
6. Meta-perception (group)	3.57	1.44	-.24** [-.38, -.09]	-.11 [-.26, .05]	.31** [.16, .44]	.04 [-.11, .20]	.53** [.41, .64]						
7. Perception of the outgroup	4.46	1.25	-.37** [-.50, -.23]	-.21** [-.35, -.05]	.53** [.41, .64]	.21** [.06, .35]	.57** [.45, .66]	.61** [.51, .70]					
8. Contact norms (ingroup)	4.43	1.20	-.14 [-.29, .01]	-.12 [-.27, .03]	.25** [.10, .39]	.23** [.08, .37]	.35** [.20, .48]	.41** [.28, .53]	.34** [.20, .47]				
9. Contact norms (outgroup)	4.23	1.41	-.30** [-.44, -.15]	-.10 [-.25, .05]	.29** [.14, .42]	.06 [-.10, .21]	.37** [.22, .49]	.49** [.36, .60]	.42** [.28, .54]	.28** [.13, .42]			
10. Contact intention (conversation)	3.84	1.79	-.19* [-.33, -.03]	-.08 [-.23, .08]	.42** [.29, .54]	.17* [.02, .32]	.37** [.22, .49]	.39** [.25, .51]	.47** [.34, .58]	.34** [.19, .47]	.29** [.14, .42]		
11. Contact intention (general)	4.81	1.37	-.31** [-.44, -.16]	-.14 [-.29, .01]	.59** [.48, .68]	.28** [.13, .41]	.43** [.29, .55]	.34** [.20, .47]	.59** [.48, .69]	.38** [.24, .50]	.36** [.22, .49]	.68** [.59, .76]	
12. Ingroup identification	5.45	1.39	.20* [.05, .35]	-.25** [-.39, -.10]	-.05 [-.21, .10]	.38** [.23, .50]	.03 [-.12, .19]	-.03 [-.18, .13]	-.10 [-.25, .05]	.08 [-.08, .23]	-.10 [-.25, .06]	.03 [-.12, .19]	-.02 [-.18, .13]

*Note. **p > 0.01 level (2-tailed), *P > 0.05 level (2-tailed). The 4 items for meta-perception (self and group) and perception of the outgroup, the two items for contact norms (ingroup and outgroup) and the six items for contact intention (i.e., divided into two scores: conversation - first three items; and general - last three item, the seventh item about discussing race was excluded) were averaged to create means scores used to compute these correlations.*

Table 17

Descriptive statistics and correlations with 95% confidence intervals for the variable for White participants (Study 4).

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11
1. Negative contact (ingroup)	2.37	1.13											
2. Positive contact (ingroup)	3.72	1.49	.18** [.05, .31]										
3. Negative contact (outgroup)	5.37	1.22	-.42** [-.53, -.30]	-.09 [-.23, .05]									
4. Positive contact (outgroup)	5.32	1.14	-.11 [-.25, .02]	-.32** [-.44, -.19]	.56** [.46, .65]								
5. Meta-perception (self)	5.26	1.14	-.13 [-.26, .01]	-.06 [-.20, .08]	.45** [.34, .56]	.29** [.16, .41]							
6. Meta-perception (group)	4.02	1.30	-.11 [-.24, .03]	-.38** [-.50, -.26]	.20** [.06, .33]	.20** [.07, .33]	.43** [.31, .53]						
7. Perception of the outgroup	5.42	1.08	-.27** [-.40, -.14]	.07 [-.07, .20]	.41** [.29, .52]	.12 [-.01, .26]	.52** [.41, .61]	.30** [.17, .42]					
8. Contact norms (ingroup)	4.90	1.18	-.05 [-.18, .09]	-.24** [-.37, -.11]	.13 [-.01, .26]	.27** [.13, .39]	.23** [.09, .35]	.31** [.18, .43]	.18* [.04, .31]				
9. Contact norms (outgroup)	4.53	1.15	-.09 [-.23, .05]	-.15* [-.28, -.01]	.18* [.04, .31]	.16* [.02, .29]	.41** [.29, .52]	.46** [.34, .56]	.24** [.10, .37]	.39** [.27, .50]			
10. Contact intention (conversation)	4.55	1.64	-.06 [-.19, .08]	-.07 [-.20, .07]	.36** [.24, .48]	.29** [.16, .41]	.33** [.20, .45]	.17* [.04, .30]	.35** [.22, .46]	.10 [-.04, .23]	.21** [.07, .34]		
11. Contact intention (general)	5.79	1.12	-.20** [-.33, -.06]	.07 [-.07, .20]	.56** [.46, .65]	.25** [.11, .37]	.47** [.36, .57]	.13 [-.01, .26]	.54** [.44, .64]	.11 [-.03, .24]	.27** [.14, .39]	.53** [.43, .62]	
12. Ingroup identification	3.55	1.60	.13 [-.01, .26]	-.41** [-.52, -.29]	.06 [-.08, .20]	.34** [.21, .46]	.14* [.00, .27]	.40** [.28, .51]	.04 [-.10, .18]	.27** [.13, .39]	.21** [.07, .34]	.18** [.05, .31]	-.09 [-.22, .05]

*Note. **p > 0.01 level (2-tailed), *P > 0.05 level (2-tailed). The 4 items for meta-perception (self and group) and perception of the outgroup, the two items for contact norms (ingroup and outgroup) and the six items for contact intention (i.e., divided into two scores: conversation - first three items; and general - last three item, the seventh item about discussing race was excluded) were averaged to create means scores used to compute these correlations.*

SEM: A test of the Perception-norm model.

We tried to replicate results from studies 2 and 3 in a new intergroup context (i.e., U.S. racial context). We used R's (R Core Team, 2022) lavaan package (Rosseel, 2012) to test our Perception-norm model using SEM analysis with latent variables.

Four items indicated perceptions of the outgroup, self and group meta-perception latent factors. Ingroup and outgroup contact norms latent factors were indicated by two items each. Contact intention was divided into two latent factors, each indicated by three items (i.e., 1- Conversation intention; 2- General interest in interaction)[13]. Finally, the ingroup identification latent factor was indicated by three items, and past contact experience was indicated by four manifest variables (i.e., positive and negative contact with the ingroup and outgroup). We used robust maximum likelihood estimation to compensate for the non-normality of our data distribution. No data were missing.

The first step consisted in testing the measurement model (see Appendix G), which showed an good fit: robust $\chi^2(247) = 575.654$, $p < .001$, robust RMSEA = .06, 90% CI [0.05, 0.06], SRMR = .04, robust CFI = .96[8].

In a second time, we tested our Perception-norm model using multi-group SEM analysis with latent variable[9]. In this study, the absence of model invariance between a constrained model that assumes equality between groups and a model where the indirect paths are freely estimated would indicate that the difference in contact intention as a function of meta-perception, perception of the outgroup and social norms is dependent of one's group membership (i.e., Black vs White).

The results from the model comparison tests are set out in Table 18 and demonstrate the absence of model invariance at the scalar or medium level, indicating that the latent variances and co-variances were not equal between our two groups. Blacks and Whites participants' baseline answers to our measures differed. These findings suggest that the

[13]Exploration of factor loading revealed that the contact intention scale structure did not hold with our sample (i.e., Black and White participants). Further exploration suggested removing one item due to its low loading (i.e., interest in a conversation about race). Additionally, items loading reveal that the items are divided into two categories. After further exploration of the structure, and given the nature of the groups, we decided to divide the contact intention scale into two latent factors: one relating to a future conversation with the outgroup and one relating to general intergroup contact with the outgroup.

relationships between meta-perception and contact intentions through the perception of the outgroup and contact norms differ significantly depending on the group membership or outgroup considered. We thus decided to explore our model for each group separately. Figure 11 and 12 illustrate the SEM and their empirical fit for Black and White, respectively, while the results for the indirect and direct effects described below are set out in Table 19, 20 and 21, 22.

Table 18

Comparison of model fit statistics for the multigroup Perception-norm model SEM (Study 4).

Model	χ^2	df	CFI	RMSEA	SRMR
Measurement Model	575.65	247	.96	.06	.04
Perception-norm model	1013.47	328	.92	.08	.12
Perception-norm model (alt 1)	953.12	328	.93	.07	.10
Overall Model	575.65	247	.96	.06	.04
Black only	563.72	328	.94	.07	.12
White only	674.41	328	.92	.07	.10
Configural invariance	829.12	494	.96	.06	.04
Metric invariance	884.56	511	.95	.06	.05
Scalar invariance	1037.25	528	.93	.07	.05
Strict factorial invariance	1147.48	553	.92	.08	.05

Note.χ^2 *and df refer to chi-square and degrees of freedom. CFI, RMSEA and SRMR refer to comparative fit index, root mean square error of approximation and standardised root mean squared residual. Perception-norm model refers to our hypothesised Perception-norm model. See for more details about Perception-norm model (alt 1) and Perception-norm model (alt 2).*

As in studies 2 and 3, we tested our social Perception-norm model. To do so, we specified two parallel with self (Xa) and group (Xb) meta-perception predicting contact intention (Ya- conversation intention; Yb- general interest in interaction) via, consecutively, perception of the outgroup (M1) and ingroup (M2a) and outgroup (M2b) contact norms (paths: Xa or Xb → M1 → M2a or M2b → Ya or Yb). The direct path from self and group meta-perception and perception of the outgroup to contact intention were also included. Additional mediation paths from self (X1) and group (χ^2) meta-perception to contact intention (Ya and Yb) through ingroup (M2a) and outgroup (M2b) contact norms only (path: Xa or Xb → M2a or M2b → Ya or Yb) or perception of the outgroup only (path:

Xa or Xb → M1 → Ya or Yb) were also included. Our two meta-perception measures were allowed to correlate.

Predictors of contact intention for Blacks people. Figure 11 depicted the results from this model for Black participants, which resulted in an acceptable model fit: robust $\chi^2(328) = 1013.473$, $p < .001$, robust RMSEA = .08, 90% CI [0.04, 0.05], SRMR = .12, robust CFI = .92. Estimates for all the covariates can be found in 76 (see Appendix I).

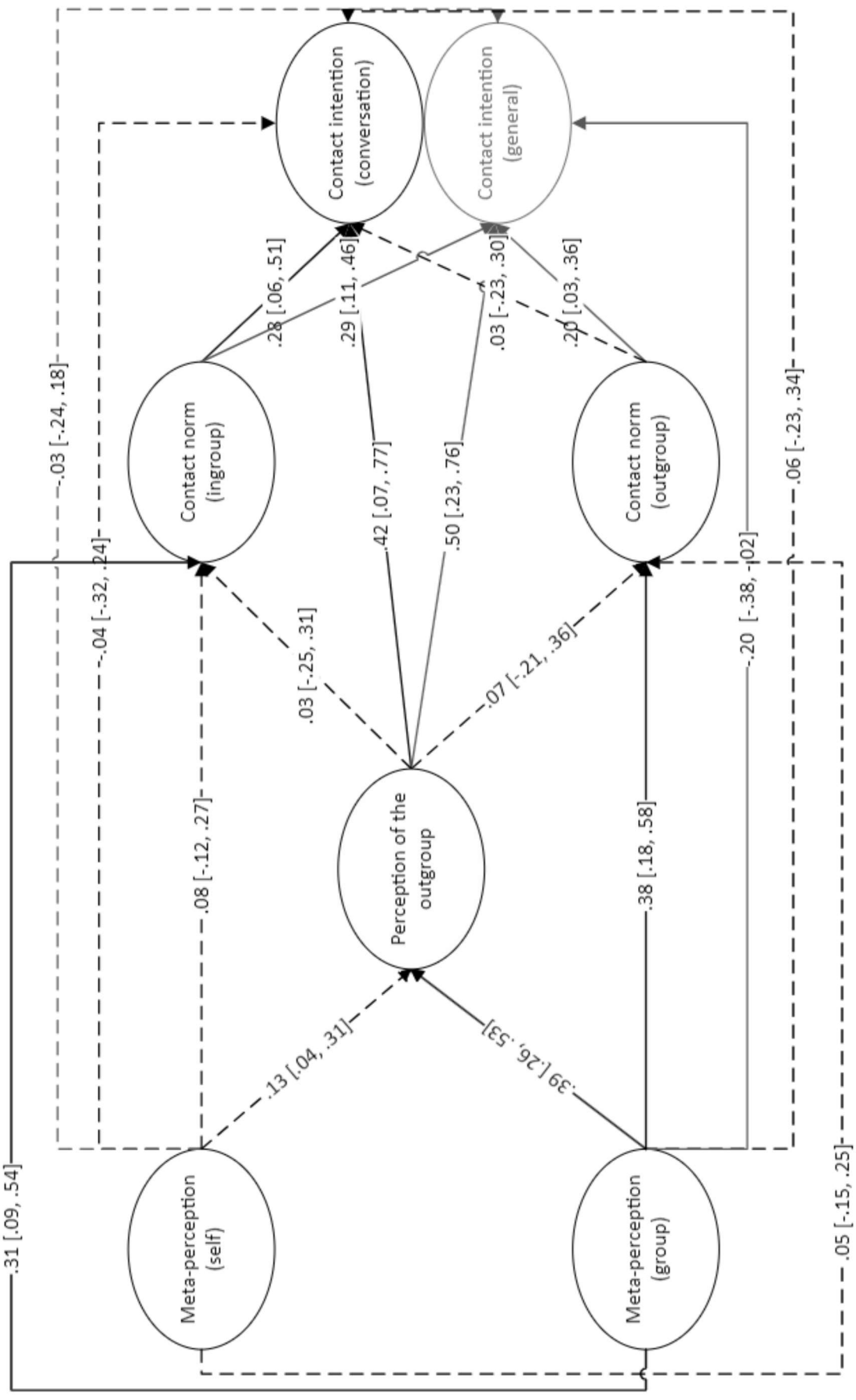
For Black participants, self meta-perception did not have a direct nor any indirect effect on contact intention (Ya- conversation intention; Yb- general interest in interaction; see Table 19 and 20). Group meta-perception, on the other hand, had both a negative direct effect and a positive indirect effect on general contact intention via the perception of the outgroup only (Yb: b=.20, 95% CI [.13, .37], p <.001) and via ingroup contact norms. Finally, it had a positive indirect effect on conversation intention via the perception of the outgroup (only - Ya: b=.16, 95% CI [.03, .30], p=.02). All other direct and indirect paths were non-significant. The results suggest that, for Black participants, group but not self meta-perception influences intergroup contact engagement. Further, both ingroup contact norms and the perception of the outgroup appear to suppress this effect.

Predictors of contact intention for Whites people. Figure 12 depicted the results from this model for White participants, which resulted in an acceptable model fit: robust $\chi^2(328) = 1013.473$, $p < .001$, robust RMSEA = .08, 90% CI [0.04, 0.05], SRMR = .12, robust CFI = .92. Estimates for all the covariates can be found in 77 (see Appendix I).

For Whites participants (see Table 21 and 22), self meta-perception had an indirect effect on contact intention (Y1a- conversation intention; Y1b- general interest in interaction) via the perception of the outgroup only (Ya: b=.15, 95% CI [.01, .30], p=.04; Yb: b=.16, 95% CI [.06, .26], p <.001). Further, self meta-perception also predicted general intention to interact (Yb) via outgroup contact norms (b=.07, 95% CI [.01, .16], p=.04). No direct or any other indirect effect of group meta-perception on contact intention (Ya and Yb) were found. Finally, no direct or indirect effects were found regarding group meta-perception. These results suggest that, for White participants, self but not group

Figure 11

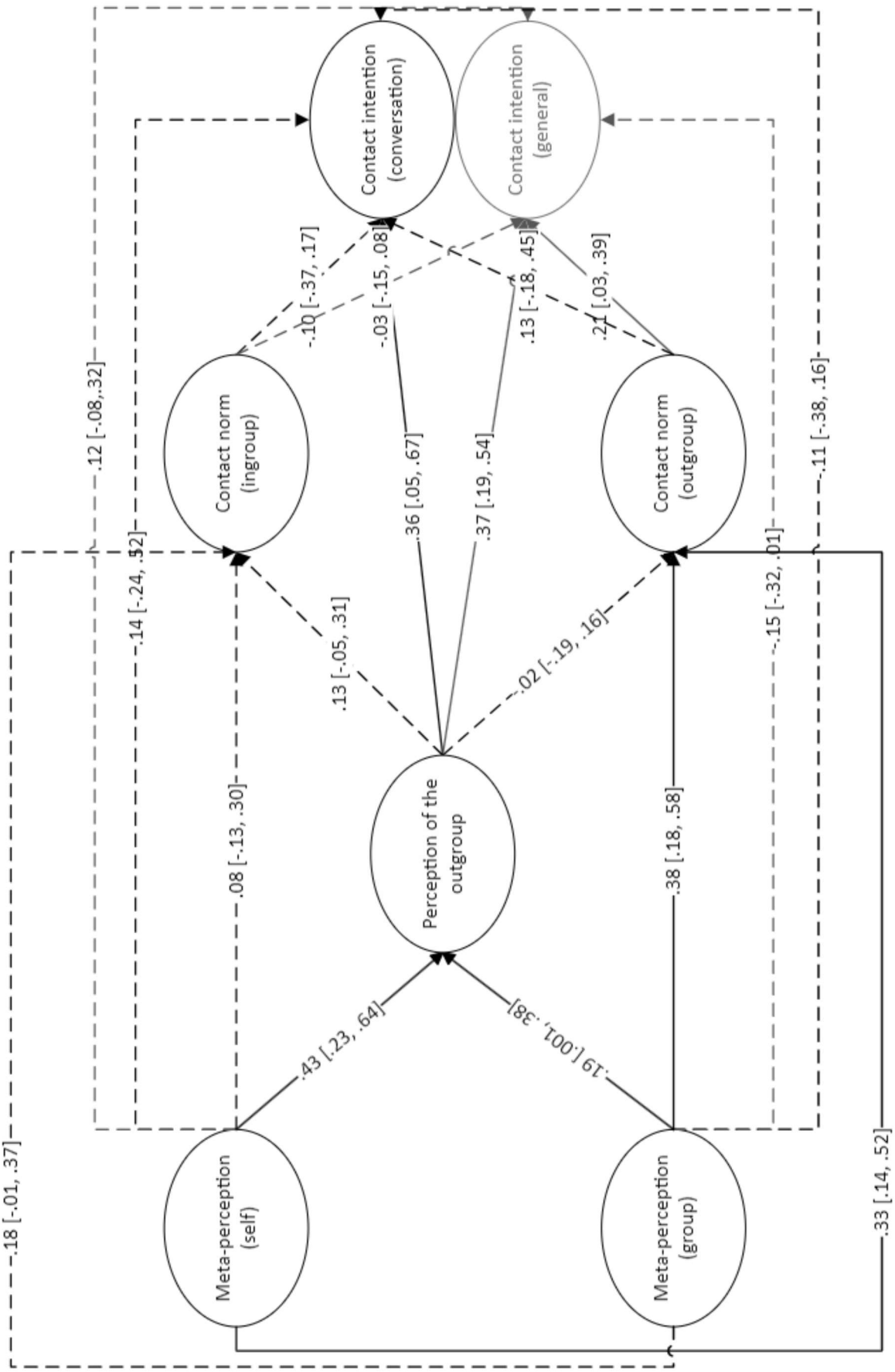
Empirical fit of structural equation model of the association between meta-perception and contact intention via the perception of the outgroup, contact norms (Perception-norm model - Black participants.)



Note. Colours are included to ease reading but have no other meaning.

Figure 12

Empirical fit of structural equation model of the association between meta-perception and contact intention via the perception of the outgroup, contact norms (Perception-norm model - White participants).



Note. Colours are included to ease reading but have no other meaning.

Table 19

The summary of the effects of meta-perception (self and group) on conversation intention via the perception of the outgroup and contact norms (ingroup and outgroup) for Black participants.

		95% CI		
	Effect	**L**	**U**	***p***
Total	.79	.38	1.19	.000
Total direct	.44	.10	.77	.01
Total indirect	.35	.12	.58	.000
Specific direct path				
Meta-perception (S) → Conversation Intention	-.04	-.32	.24	.77
Meta-perception (G) → Conversation Intention	.06	-.23	.34	.70
Perception outgroup → Conversation Intention	.42	.07	.77	.02
Norm (Ing) → Conversation Intention	.28	.06	.51	.01
Norm (Out) → Conversation Intention	.03	-.23	.30	.80
Specific indirect path				
Meta-perception (S) → Perception outgroup → Norm (Ing) → Conversation Intention	.00	-.01	.01	.84
Meta-perception (S) → Perception outgroup → Norm (Out) → Conversation Intention	.00	.00	.00	.83
Meta-perception (G) → Perception outgroup → Norm (Ing) → Conversation Intention	.01	-.03	.03	.83
Meta-perception (G) → Perception outgroup → Norm (Out) → Conversation Intention	.00	-.01	.01	.83
Meta-perception (S) → Perception outgroup → Conversation Intention	.06	-.04	.15	.24
Meta-perception (G) → Perception outgroup → Conversation Intention	.16	.03	.30	.02
Meta-perception (S) → Norm (Ing) → Conversation Intention	.02	-.03	.08	.43
Meta-perception (S) → Norm (Out) → Conversation Intention	.00	-.01	.02	.82
Meta-perception (G) → Norm (Ing) → Conversation Intention	.09	-.01	.18	.06
Meta-perception (G) → Norm (Out) → Conversation Intention	.01	-.09	.11	.80

meta-perception impacts intergroup contact engagement intention.

The relation between self, group meta-perception and perception of the outgroup. For both Black participants, perception of the outgroup was found to suppress the effect of group meta-perception on contact intention. For White participants, it was found to mediate the effect of self meta-perception on said contact intention. Additionally, for both Blacks and Whites participants, group meta-perception predicted the perception of the outgroup. However, self meta-perception predicted the perception of the outgroup only for White participants. Altogether, these results partially support the previously established relationship between meta-perception (self and group) and perception of the outgroup as well as the mediation role of the latter. Further, it highlights the importance of differentiating self and group meta-perception as both hold different effects on contact intention and perception of the outgroup as a function of the group concerned and their relative status.

Table 20

The summary of the effects of meta-perception (self and group) on general contact intention via the perception of the outgroup and contact norms (ingroup and outgroup) for Black participants.

		95% CI		
	Effect	**L**	**U**	***p***
Total	.79	.38	1.19	.000
Total direct	.44	.10	.77	.01
Total indirect	.35	.12	.58	.000
Specific direct path				
Meta-perception (S) → General contact Intention	-.03	-.24	.18	.75
Meta-perception (G) → General contact Intention	-.20	-.38	-.02	.03
Perception outgroup → General contact Intention	.50	.23	.76	.00
Norm (Ing) → General Contact Intention	.29	.11	.46	.00
Norm (Out) → General Contact Intention	.20	.03	.36	.02
Specific indirect path				
Meta-perception (S) → Perception outgroup → Norm (Ing) → General contact Intention	.00	-.02	.03	.84
Meta-perception (S) → Perception outgroup → Norm (Out) → General contact Intention	.00	-.01	.03	.62
Meta-perception (G) → Perception outgroup → Norm (Ing) → General contact Intention	.00	-.02	.04	.83
Meta-perception (G) → Perception outgroup → Norm (Out) → General contact Intention	.01	-.01	.05	.63
Meta-perception (S) → Perception outgroup → General contact Intention	.07	.06	.32	.20
Meta-perception (G) → Perception outgroup → General contact Intention	.20	.13	.37	.00
Meta-perception (S) → Norm (Ing) → General contact Intention	.02	-.02	.10	.41
Meta-perception (S) → Norm (Out) → General contact Intention	.01	-.02	.07	.62
Meta-perception (G) → Norm (Ing) → General contact Intention	.09	.00	.17	.04
Meta-perception (G) → Norm (Out) → General contact Intention	.07	.00	.16	.07

Discussion

This study builds on studies 2 and 3 by testing our Perception-norm model in a different intergroup context. As in previous studies we measured different aspects of meta-perceptions, perceptions of the outgroup and norms, along with intergroup contact intention and control for the effect of ingroup identification and past contact experiences. Data were collected from people identifying as either Black or White and living in the U.S. As for the other studies, we expected meta-perception to predict intergroup contact via, successively, perception of the outgroup and contact norms. Additionally, we expected these results to vary as a function of the intergroup concerned and group characteristics (e.g., Group status).

Findings partially support our Perception-norm model. Indeed, we did find an indirect effect of meta-perception on contact intention (i.e., conversation intention and general interaction interest intention)[14] via the perception of the outgroup. We also found specific effects of ingroup and outgroup norms regarding general interaction intention. However,

Table 21

The summary of the effects of meta-perception (self and group) on conversation intention via the perception of the outgroup and contact norms (ingroup and outgroup) for White participants.

		95% CI		
	Effect	**L**	**U**	***p***
Total	.67	.26	1.08	.000
Total direct	.39	-.01	.78	.05
Total indirect	.28	.001	.56	.05
Specific direct path				
Meta-perception (S) → Conversation Intention	.14	-24.00	.52	.47
Meta-perception (G) → Conversation Intention	-.11	-.38	.16	.43
Perception outgroup → Conversation Intention	.36	.05	.67	.02
Norm (Ing) → Conversation Intention	-.10	-.37	.17	.46
Norm (Out) → Conversation Intention	.13	-.18	.45	.40
Specific indirect path				
Meta-perception (S) → Perception outgroup → Norm (Ing) → Conversation Intention	-.01	-.02	.01	.51
Meta-perception (S) → Perception outgroup → Norm (Out) → Conversation Intention	.00	-.01	.01	.84
Meta-perception (G) → Perception outgroup → Norm (Ing) → Conversation Intention	.00	-.01	.01	.56
Meta-perception (G) → Perception outgroup → Norm (Out) → Conversation Intention	.00	.00	.00	.83
Meta-perception (S) → Perception outgroup → Conversation Intention	.15	.01	.30	.04
Meta-perception (G) → Perception outgroup → Conversation Intention	.07	-.03	.16	.16
Meta-perception (S) → Norm (Ing) → Conversation Intention	-.01	-.04	.02	.60
Meta-perception (S) → Norm (Out) → Conversation Intention	.04	-.06	.15	.39
Meta-perception (G) → Norm (Ing) → Conversation Intention	-.02	-.07	.04	.51
Meta-perception (G) → Norm (Out) → Conversation Intention	.05	-.07	.17	.42

we found no evidence supporting the serial mediation we hypothesised. Finally, these results offer partial support for the relationship between meta-perception and perception of the outgroup and the mediation role of the latter. However, these results need to be taken carefully as they do not represent a perfect fit of the data. Other models with better fit might exist and this needs to be taken into account when considering the generalisation of these results.

However, the most interesting part of those results comes from the difference between our groups. Indeed, for Black participants, contact intention was predicted by group but not self meta-perception. Additionally, general contact intention was negatively predicted by group meta-perception. Consequently, the perception of the outgroup and ingroup norms acted as a suppressor of this effect. Suppression effects happen when a direct and indirect effect has opposite signs (Mackinnon et al., 2000). In this case, Black participants

[14]As a reminder, in this study, contact intention was divided into two latent variables: conversation intention and general contact intention. The term 'contact intention' is used to refer to both.

Table 22

The summary of the effects of meta-perception (self and group) on general contact intention via the perception of the outgroup and contact norms (ingroup and outgroup) for White participants.

		95% CI		
	Effect	**L**	**U**	***p***
Total	.70	.44	.95	.000
Total direct	.33	.12	.55	.000
Total indirect	.37	.17	.56	.000
Specific direct path				
Meta-perception (S) → General contact Intention	.12	.08	.32	.25
Meta-perception (G) → General contact Intention	-.15	-.32	.01	.07
Perception outgroup → General contact Intention	.37	.19	.54	.00
Norm (Ing) → General Contact Intention	-.03	-.15	.08	.57
Norm (Out) → General Contact Intention	.21	.03	.39	.02
Specific indirect path				
Meta-perception (S) → Perception outgroup → Norm (Ing) → General contact Intention	.00	-.01	.01	.60
Meta-perception (S) → Perception outgroup → Norm (Out) → General contact Intention	.00	-.02	.01	.83
Meta-perception (G) → Perception outgroup → Norm (Ing) → General contact Intention	.00	.00	.00	.62
Meta-perception (G) → Perception outgroup → Norm (Out) → General contact Intention	.00	-.01	.01	.83
Meta-perception (S) → Perception outgroup → General contact Intention	.16	.06	.26	.00
Meta-perception (G) → Perception outgroup → General contact Intention	.07	-.01	.15	.10
Meta-perception (S) → Norm (Ing) → General contact Intention	.00	-.01	.01	.64
Meta-perception (S) → Norm (Out) → General contact Intention	.07	.00	.14	.04
Meta-perception (G) → Norm (Ing) → General contact Intention	-.01	-.03	.02	.59
Meta-perception (G) → Norm (Out) → General contact Intention	.08	.00	.16	.05

positive meta-perception directly increased their general contact intention (Yb) but indirectly reduced said intention (Yb) via either a more positive perception of the outgroup or a perception of higher ingroup normative support. On the other hand, for White participants, self (but not group) meta-perception predicted intergroup contact engagement via perception of the outgroup and outgroup (but not ingroup) contact norms. In other words, for Black participants, considering their group as being perceived positively improves their perception of the outgroup and increases their desire to interact with them in the future. For White participants, on the other hand, it is the belief of being personally perceived positively that improves their perception of the outgroup and leads them to a higher intention to interact in the future. Further, Black participants value the ingroup support for intergroup contact, while for White participants, it is the outgroup support for intergroup contact that matters.

Overall, these results partially support our model. They provide further evidence for the relationship between meta-perception and perception of the outgroup and the media-

tion role of the latter. More interestingly, they highlight the importance of differentiating self and group meta-perception as both hold distinct effects. Further, they also underline the importance of studying different intergroup contexts and considering the groups and their relative attributes, as they demonstrated that the role of meta-perception in predicting intergroup contact engagement depends on the group concerned and its relative status.

General discussion

The overarching aim of this third chapter was to test, in two intergroup contexts, our Perception-norm model whereby perceptions (i.e., meta-perceptions → perception of the outgroup) predict contact engagement via contact norms. More precisely, we aimed to explore the combined role of meta-perception (self and group), perception of the outgroup and contact norms (ingroup and outgroup) on contact engagement intention in different intergroup contexts (i.e., a- political context, pre vs post Presidential election; b- racial context in the U.S.).

In addition to this indirect effect, we expected an asymmetrical role of self and group meta-perception and posit that self meta-perception will have a greater impact on intergroup contact engagement than group meta-perception. Further, we expected the perception of the outgroup to be predicted by meta-perception (self and group) and to mediate their effect. Finally, we expected our results to be context dependent (i.e., differences between political and racial contexts and differences within one context, based on, for example, group membership and status).

Support for the Perception-norm model

Previous research demonstrated an effect of meta-perception (self and group), perception of the outgroup and norms on intergroup contact engagement (Adra et al., 2020; MacInnis & Hodson, 2012; Meleady, 2021; Stathi et al., 2020). We have taken a step further and provided the first evidence of their combined role.

Study 2's findings demonstrate a weak yet existing indirect effect of meta-perception (self and group) on intergroup contact engagement via, successively, perception of the out-

group and contact norms (ingroup: for both self and group meta-perception and outgroup: for self meta-perception only). In other words, an increase in intergroup contact intention between Democrats and Republicans was predicted by them considering being perceived positively (i.e., as competent, warm, moral and positive), which led them to see the outgroup more positively and then to perceive higher normative support for intergroup contact from both the ingroup and the outgroup. Further supporting the relation between meta-perception and norms, a positive indirect effect of group meta-perception and negative indirect effect of self meta-perception on contact intention via ingroup contact norms was found, suggesting that contact norms mediate or suppress group and self meta-perception effects, respectively.

Study 3 partially supports our model by providing further evidence of the combined role of meta-perception and norms on intergroup contact engagement. However, we did not replicate Study 2 findings as we did not find a serial mediation from meta-perception to contact intention via the perception of the outgroup and contact norms. However, as in Study 2, we did find that meta-perception suppressed the effect of self and mediated the effect of group meta-perception on contact intention. Finally, any indirect effects disappear when we control for the effect of the political environment (i.e., right vs left-wing media and companies) our participants immerse themselves in.

In Study 4, findings reveal partial support once again. Interestingly, results reveal different factors predict contact engagement for Black and White participants. For Black people, being personally perceived in a positive manner does not influence their contact engagement nor their perception of the outgroup or contact norms (ingroup and outgroup). Considering the Black community to be seen as competent, moral, warm and positive, on the other hand, leads to a higher desire to have a conversation or interact in general with the outgroup via either the increased positive perception of White people or the perception of higher support for intergroup contact from their group. For White participants, on the other hand, it is self meta-perception that matters. Being seen, personally, in a positive way resulted in a more positive perception of the outgroup (i.e., Blacks as more competent, warm, moral and positive), an effect that led to higher degrees of intergroup contact intention. Further, an effect of norms was also found. However, unlike for Black participants,

for Whites, it is outgroup normative support for intergroup contact that predicted general intergroup contact.

Overall, our findings further extend previous research. They provide new evidence of the role of meta-perception, perception of the outgroup and contact norms in intergroup contact engagement. Further, they provide the first evidence of the relationship between those factors and their combined effect on contact intention. Finally, they suggest that the effect of those factors is context-dependent and highlight the importance of distinguishing between self and group meta-perception.

The role of perception of the outgroup

Our results extend previous research by providing further insight into the relationship between meta-perception (self and group) and perception of the outgroup in distinct intergroup contexts. As expected, perception of the outgroup was predicted by meta-perception for both self and group in all our studies, with one exception. Indeed, in our last study, Black participants' perception of the outgroup was predicted by group but not self meta-perception.

More interestingly, our findings provide new evidence regarding the mediating role of the perception of the outgroup. Previous studies have demonstrated that perception of the outgroup or dehumanisation mediated the role of meta-perception or meta-dehumanisation on multiple behaviours (e.g., outgroup aggression behaviour, Kteily & Hodson, 2016; support for foreign policies and openness for diplomacy in multiple intergroup contexts, O'Brien et al., 2018). Our results, however, offer more nuanced support. Indeed, in Study 2, the perception of the outgroup does appear as a (weak) mediator of the relation between meta-perception and contact engagement, but only when paired with norms. In Study 3, when the perceptions between the two groups are made less salient in the media, the mediation role of the perception of the outgroup disappears. Finally, in Study 4, the perception of the outgroup mediates the relationship between meta-perception and contact intention. However, its effects on meta-perception depend on the group concerned. Thus, for Black participants, perception of the outgroup suppresses the effect of group meta-perception while it mediates the effect of self meta-perception for White participants.

In sum, while previous studies find recurring evidence of the mediation role of perception of the outgroup (Kteily & Hodson, 2016; O'Brien et al., 2018; Stathi et al., 2020), we did not. This could be due to the groups we observed. Indeed, few to no studies have explored those factors among Democrats and Republicans. Further, it could also be related to us exploring general meta-perception (i.e., competence, warmth, morality, positivity) rather than specific meta-perception aspects such as meta-dehumanisation and meta-perception of trust (Kteily & Hodson, 2016; O'Brien et al., 2018).

Altogether, those results provide some evidence of the mediation role of perception of the outgroup and its general relation to both self and group meta-perception, extending the literature on the subject. It also emphasises the importance of considering the context and differentiating self and group meta-perception.

The role of self vs group meta-perception

Our results support the idea that not only do self and group meta-perception both exist and seem to influence intergroup contact engagement, but they also highlight that we need to treat the two factors as distinct rather than interchangeable. Indeed, in Study 2, while no significant differences were found regarding the indirect effect of self and group meta-perception (i.e., serial mediation), we did find that self meta-perception had a direct effect and a negative indirect effect (via ingroup contact norms) on contact intention, while group meta-perception only had a positive indirect effect (via ingroup contact norms). Further, in Study 4, self and group meta-perception predicted intergroup contact intention for different groups. Indeed, contact intention was positively indirectly predicted by group meta-perception for Black participants and by self meta-perception for White participants. Altogether, this suggests that self and group meta-perception have distinct effects on contact intention and supports previous findings suggesting differences in the effect of self and group meta-perception (Fowler & Gasiorek, 2020; MacInnis & Hodson, 2012).

The role of ingroup and outgroup contact norm

Our results partially support Vauclair et al. (2016) conception that meta-perception, and by extension perception of the outgroup, inform norms which will, in turn, influence

contact engagement. In studies 2 and 3, contact norms (i.e., 2 – ingroup; 3 – ingroup and outgroup combined latent variable) mediate the effect of positive group meta-perception and suppress the effect of self meta-perception on contact intention. In Study 4, ingroup contact norms suppressed the effect of group meta-perception for Black people and mediated the effect of self meta-perception for White people. However, in our studies, ingroup and outgroup contact norms were measured by only two items. Authors tend to recommend using at least three manifest variables to build a latent variable. Yet, we explored the model using the average score on the two items as an alternative solution and found similar results. Further, in Study 3, contact norms and contact intention covariance were high. Altogether, this brings us to take our results with precaution, yet, definitely entices us to explore the relationship between perceptions, contact norms and contact intention further.

Finally, our results extend existing studies exploring ingroup and outgroup norms as two distinct concepts. Mixed evidence accounts for the role of ingroup and outgroup norms. Some studies found an effect of ingroup but not outgroup norms on attitudes, while others find the opposite patterns of results (Capozza et al., 2017; Turner et al., 2008). Evidence also suggests that outgroup norms are a stronger mediator of the relationship between extended contact and contact intention (Cameron et al., 2011). Overall, the evidence seems to support the role of both as a predictor of contact intention and suggests they might have different effects. Our results add to this by demonstrating that ingroup and outgroup norms either mediate or suppress the effect of meta-perception, an effect dependent on the groups concerned. For instance, ingroup (but not outgroup) contact norms significantly suppressed the effect of self but not group meta-perception in Study 2. In Study 3, ingroup norms suppressed the effect of group membership for Black participants but mediated the relationship between self meta-perception and contact intention for White participants. We have no clear explanation as to why this suppression effect exists and will avoid presenting speculations. We believe further research that re-examines this effect with careful consideration of the link between self meta-perception and ingroup contact norms for Democrats and Republicans is needed to understand this suppression effect.

Altogether, these results extend the literature on the role of norms in intergroup

contact engagement by providing further evidence of the effect of norms and new evidence of its relation to meta-perception and the perception of the outgroup. Finally, it encourages scholars to consider both ingroup and outgroup norms effects.

The role of the intergroup context

Our results discussed so far have provided us with interesting insights (we believe) into the (combined) role of the meta-perception, perception of the outgroup and contact norms in intergroup contact engagement. They also support previous studies demonstrating the importance to consider the intergroup context. As we have seen, people's affiliation to various social categories, their emotional significance and their value is an important part of their identity (i.e., social identity theory, Brewer & Miller, 1984; Tajfel, 1972, 1974). As a result, the connections between individuals and their social environment cannot be ignored. Studies have demonstrated that the group membership of the individuals concerned, their group status and relative power, and elements of the environment such as media or laws can influence the effect of and engagement in intergroup contact.

The group types.

In the intergroup contact literature, multiple groups are considered interchangeably when testing effects. However, evidence suggests that we should consider the type of group concerned. Previous studies have demonstrated that effects such as emotional reaction to threat or engagement in collective action depend on the group concerned and their characteristics (Alston, 2022; Cottrell & Neuberg, 2005; Seger et al., 2017). For instance, the emotions elicited by a racial outgroup (i.e., admiration and anger) were different from those elicited by an outgroup based on sexual orientation (i.e., admiration and disgust, Seger et al., 2017). Our results extend these findings by showing how the effect of meta-perception on contact intention via the perception of the outgroup and norms differ depending on the type of group concerned. In our studies, we considered groups based on attitudes such as political groups (i.e., group membership is a choice and not salient) vs groups based (mainly) on physical attributes such as race (i.e., group membership is not a choice and is salient). In the political context (i.e., attitude group), both self and group meta-perception

matters and their effect was (mainly) suppressed or mediated by ingroup contact norms. However, in the racial context, the effect of meta-perception depended on the group considered (i.e., Black vs White), and their effect on contact intention was (mainly) mediated by the perception of the outgroup. Thus, the (combined) effect of meta-perception, perception of the outgroup, and norms depend on the group concerned.

The status, power and history between groups.

Further, differences can also arise within one intergroup context due to group characteristics such as status and experience. Indeed, Study 4 reveals that meta-perception effects on intergroup contact depend on group membership and status. Indeed, for Black participants (i.e., disadvantaged group), group (but not self) meta-perception had a positive indirect effect on intergroup contact intention via the perception of the outgroup or ingroup norms. For White participants (i.e., advantaged group), however, self (but not group) meta-perception had a positive indirect effect on contact intention via the perception of the outgroup or outgroup contact norms. These results extend previous studies' findings regarding the role of status in intergroup–contact (Hässler et al., 2020b; Ron et al., 2017; Saguy & Chernyak-Hai, 2012; Saguy et al., 2008). Those studies demonstrated that groups of different statuses have different expectations and experiences of contact. For instance, engagement in collective action and choice of commonalities vs differences-oriented conversation depend on people's group status (i.e., minority/disadvantage vs majority/advantage, Hässler et al., 2020b). Our results extend those studies by providing evidence that status influences perceptions and engagement in contact. Further, our findings are coherent with Blacks' and Whites' life experiences.

Indeed, Black minority and disadvantaged status bring them to consider themselves as group members (rather than self) more often than Whites (Barroso, 2020). Being careful of how they present themselves and the stereotype related to their group can transmit is a constant concern (Eddo-Lodge, 2020). On the other hand, White people are not only the majority or advantage group but are, to some extent, the "norm". In addition to the stereotype associated with what strongly identifying as White means (i.e., White supremacist), these can lead White people to avoid thinking about themselves in relation to

their racial identity (Barroso, 2020; Flanagin et al., 2021b). The importance of group meta-perception for our Black participants and self meta-perception for our White participants does reflect these different life experiences. It supports the incentive to consider group status when looking at predictors of intergroup contact engagement.

The socio-cultural context.

Finally, we also observed differences within one intergroup context as a consequence of changes in the environment. While the same group (i.e., Democrats and Republicans) are compared, studies 2 and 3 findings differ. Indeed, in Study 2, we did find, even if weak, a serial mediation (i.e., via the perception of the outgroup and contact norms) of the effect of meta-perception on contact intention. We also found that ingroup norms mediated the effect of group meta-perception and suppressed the effect of self meta-perception. Study 3, however, did not find the same serial mediation. We did find, however, similar effects via contact norms. This could be partly explained by changes in the environment surrounding the two groups. Study 2 was conducted the month before the 2020 U.S. presidential election. The last weeks before such a big event for both groups created a specific environment. Perceptions between both groups were salient within the media, and political talks were more common (e.g., political advert on every channel, increased time of watching news media, Iyengar et al., 2019). However, in Study 3, a few months had passed since the election. The media representation and the general population focus on the distinction between both groups was less salient. Further, the power relation between both groups shifted with Democrats winning the election. Altogether, these changes in the environment might have impacted our results the same way intense media coverage (Carew et al., 2019), political discourse (Crandall et al., 2018) or legislation change (Green et al., 2020) have been demonstrated to influence people's attitudes before. This explanation is also further supported by some of our own results. In Study 3, when we controlled for the political environment participants immersed themselves in, the effect of meta-perception and norms disappeared. Studies have shown that Democrats and Republicans get their news in a political bubble (Pazzanese, 2021). It is logical to think this will affect their perception, highlighting differences between their groups beyond the individual level. Studies on struc-

tural vs individual interventions suggest that changing attitudes at the group level might be more effective than at the individual level (Paluck et al., 2021). It is thus possible that the political environment they are immersed in has effects beyond their individual perception (e.g., meta-perception). This further suggests that the impact of meta-perception, the perception of the outgroup, and contact norms depend on the general socio-cultural context surrounding groups such as media, companies or laws.

Limits and future direction

These results inform new studies by providing the first evidence of the combined role of meta-perception (self and group), perception of the outgroup, and contact norms. They encourage further studies to explore those factors. These findings also encourage scholars to consistently consider the intergroup context, as differences in the environment or the group considered (e.g., group membership definition, group status) can influence factors' impact on intergroup contact engagement. Further, these results highlight the importance of differentiating self and group meta-perception. However, these results also have some limits.

First, if our results provide some interesting initial evidence of the combined role of meta-perception (self and group), perception of the outgroup and contact norms (ingroup and outgroup) on contact intention, we still need to nuance our conclusion. As with all correlational studies, our results are limited, and we cannot conclude on the causality and mediation direction in our model. An alternative theoretical model might also fit the data better. Here, we proposed that self and group meta-perception will predict the perception of the outgroup (Stathi et al., 2020) and that this will inform one's perception of ingroup and outgroup contact norms (Vauclair et al., 2016), which, in turn, will influence intergroup contact intention.

We also explored another model in which contact norms (ingroup and outgroup) predict contact intention through consecutively meta-perception (self and group) and perception of the outgroup. However, our model represented the best fit for the data. Other models could have been tested. However, the validity of testing for alternative models is subject to debate as some argue it is one of the advantages of SEM (Hayes et al., 2017;

Ramlall, 2017) while others argue that testing for reversed mediation models is statistically not meaningful (Lemmer et al., n.d.; Rohrer et al., 2021). Yet, if we cannot definitely prove that those factors play a role in the order we proposed, we can still consider the relationship between them and invite scholars to explore the said relationship further, especially via experimental and longitudinal studies to interpret the direction of causality better. In the future, it would be interesting to see experiments manipulating these factors (e.g., Manipulation of meta-perception/perception of the outgroup valence) as well as actual in addition to intentional intergroup contact. Chapter 4 presents an initial attempt to examine the effects of such manipulation.

Second, in this study, we focused on specific aspects of meta-perception and perception of the outgroup: competence, warmth, morality and positivity. However, other aspects of meta-perception could be relevant to predict intergroup contact engagement. Vauclair et al. (2016), for instance, demonstrated the importance of meta-perceptions content and level of analysis. Previous studies have demonstrated the influence of meta-dehumanisation (O'Brien et al., 2018), meta-prejudice (Moore-Berg et al., 2020a), meta-contact (Stathi et al., 2020). It could be interesting to explore some of those aspects of meta-perception and perception of the outgroup. Further, our measure of contact norms was limited to only two items. It would be useful for future research to consider a more developed scale and other aspects of norms, such as prejudice expression norms or develop contact and diversity norm measures.

Third, we acknowledge two limits of Study 3. First, while still acceptable the sample did not reach some of the recommendations (e.g., Soper, 2019) and was unbalanced (i.e., 72% Democrats) which could have influenced the results. Second, while we controlled for the role of the political environment, we did not test for its moderation effect, any conclusion drawn regarding such effect is thus speculation. We recommend further studies on the subject to overcome those two limits by testing a more balanced and representative sample and going further in the modelisation of those variables.

Conclusion

Altogether, these three studies provide the first evidence of the combined role of meta-perception (self and group), perception of the outgroup and contact norms. Results support the role of perception of the outgroup and intergroup norms (ingroup and outgroup) as mediators of the effect of meta-perception (self and group) on contact intention. Especially across two studies, more positive meta-perception (self and group - of competence, warmth, morality and positivity) predicted a higher desire to interact with outgroup members by increasing perceived normative support for intergroup contact among Democrats and Republicans. Further, in additional studies, we found that in the U.S. racial context, more positive meta-perception (i.e., self for Whites vs group for Blacks) predicted higher interest in intergroup contact by improving (i.e., more positive) perception of the outgroup. Our findings also support the importance of considering the context by showing those factors influenced by the group concerned (e.g., group membership definition, group status) and the surrounding environment. Overall, they inform future studies and policies on ways to promote intergroup contact engagement to facilitate social cohesion and reduce intergroup tension.

Chapter 4

Perception, norms, context, and actual contact engagement: experimental evidence

Overview

This third empirical chapter aims to investigate the role of one's meta-perception, perception of the outgroup and norms on intentional and actual contact engagement in two specific intergroup contexts. The following chapter builds on the previous chapter's results. It describes two experiments in which we manipulate perceptions and look at the impact of this perception on engagement in a "real" contact opportunity and contact intention (a- political; b- racial context in the U.S.). This chapter will begin with a brief introduction discussing the literature and method supporting these studies. After that, we will discuss the study's methods, results, implications and limits. Overall, results highlight the role of meta-perception, perception of the outgroup and contact norms in contact engagement. It also shows the differences between intentional and actual contact engagement. Finally, it reinstated the importance of considering the intergroup context as variations between and within our two intergroup contexts were found.

Introduction

The previous studies in this thesis have identified a relationship between self and group meta-perception, perception of the outgroup and norms, and how these factors influence intergroup contact intentions in potentially nuanced ways. This advances previous

literature in this area which has been limited and lacking in showing how these factors interplay. In addition, despite how intergroup context can shape intergroup contact, most studies fail to test predictors of intergroup contact engagement in various settings. Further, past research has failed to provide an experimental test of meta-perception effects on contact, and evidence is lacking regarding predictors of actual (rather than intentional) contact engagement.

Chapter 3 provided support for our Perception-norm model, although with caveats applied to particular studies, and differences between groups were evident. Importantly, these studies demonstrated the effect of meta-perception and its influence in predicting intentions to engage in intergroup contact. As noted, even our robust statistical model cannot make causal claims based on correlational data. An experimental design in which perceptions are manipulated would provide the best direct test of its influence on contact intentions. Beyond this, as we know intentions do not always predict behaviour (Ajzen et al., 2018) we sought to use actual behaviour of choosing (or not choosing) to engage in intergroup contact. Interestingly, in one study examining both contact intentions and actual contact, MacInnis and Hodson (2012) found that negative meta-perceptions generated outgroup avoidance at the behavioural (i.e., actual contact) but not at the intentional level.

Given the results evident in Chapter 3, we decided to build an experiment in which we manipulated information about meta-perception and perception of the outgroup to examine the effect of such perceptions and perceived intergroup contact norms on intergroup contact engagement in an online setting. Consistent with our previous approach, we examined this in two different intergroup contexts (5a: U.S. political context; 5b: U.S. racial context). Ideally, these studies will provide evidence to support future research and provide a practical indication for policymakers and practitioners regarding potential interventions to implement.

Meta perceptions and perception of the outgroup have previously been manipulated in two ways: 1) using an article providing information on said perceptions (e.g., Kteily & Hodson, 2016; Landry et al., 2021); 2) or asking participants to list perceptions they might have (e.g., Fowler & Gasiorek, 2020). The first method is similar to ours. It often consists

in presenting a news article from a fake journal and measuring its effect on people. In our study, we decided to use fake tweet threads to manipulate perception in order to get a more naturalistic design. Indeed, social media has taken a large place in our lives and are an efficient way of keeping yourself up to date on news and forming perceptions (Hermida et al., 2012).

Studies 5a and 5b

Overall, this chapter explores the impact of perception manipulation on "real" contact opportunities. Consistent with the online nature of this research, and current methods of online behaviour, we use a fake social media post to manipulate participants' perceptions (i.e., positive, negative, control). After measuring perceived norms and intentions, we asked participants (5a: Democrats and Republicans; 5b: Blacks and Whites) to choose between two ingroup and two outgroup partners. We will discuss the results and their implications.

The following hypotheses were formulated: We expect group membership to have an effect on perception (self and group meta-perception, perception of the outgroup), feelings of similarity, perception of contact norms (ingroup and outgroup), contact or avoidance intention and partner selection (i.e., actual contact engagement). However, we had no clear expectation of how these differences will manifest.

We expected the manipulation of perception (meta-perception and perception of the outgroup) valence to influence our measures. First, in the negative condition, we expected a lower level of contact intention and intergroup contact norms (ingroup and outgroup), a higher level of avoidance intention and negative meta-perception (self and group), and more negative perception of the outgroup, compared to the positive and control conditions. And we expected the opposite pattern for the positive condition. Second, we expected less outgroup partner choice in the negative condition compared to the control or positive conditions. And we predicted higher outgroup choice in the positive condition. In other words, we expect that manipulating meta-perception and perception of the outgroup valence will influence contact engagement.

Finally, we expect a difference in explanations for choice based on both group mem-

bership and conditions, as might be suggested by different norms and contextual conditions. We also expect different types of explanations regarding avoidance of the default partner, choice of an outgroup partner, or an ingroup partner.

Method

Participants

A total of 728 American adults were recruited for these two studies via Prolific (5a: N= 356; 5b: N= 372). The following pre-screeners were applied as part of the recruitment process: 1) being 18 years old or more; 2) living in the U.S. for at least ten years; 3) having English as first language; 4) not having taken part in one of our previous studies on the platform; 5) identifying as Black, White, Democrat or Republican depending of the survey filled. Additionally, participants were required to use a Desktop to complete the study. Participants failing to confirm the pre-screeners, using another type of Device (e.g., Android tablet) or failing both attention checks were excluded from the study, and data were not recorded for them. In addition to this, 291 participants were excluded because they either: 1) withdraw their consent (N= 3); 2) did not finish the experiment (N= 127); 3) took part multiple times (N= 1); 4) their data did not match our quality criteria (N= 160)[6].

The final sample (N= 227) for Study 5a was composed of 110 Democrats (26% Female, 0.4% Other, 24% Male; M = 42.56, SD = 13.9), 107 Republicans (25% Female, 0% Other, 24% Male; M = 43, SD = 14.15).

The final sample (N= 220) for Study 5b was composed of 103 Black (24% Female, 0.9% Other, 21% Male; M = 32.40, SD = 12.13), 117 White (26% Female, 1% Other, 25% Male; M = 41.17, SD = 16.26),

Overall, across both studies, the sample (N= 447) comprised 25% Female, 0.7% Other, 23% Male, Age (M = 39.9, SD = 14.55) with Bachelor's degree as the median level of education and participants identifying mainly as heterosexual (80%).

Three power analyses were conducted in G*Power (Faul et al., 2007) to determine the sample sizes necessary for the study. For the first one, linear multiple regression was selected: fixed model, R2 increase option to specify a model with eight tested predictors

and ten total predictors. Assuming a medium effect size (f^2 =.15) and a desired power of 80%, a minimum sample size of 109 was recommended. For the second one, ANOVA Fixed effects, special, main effects and interactions were specified with five groups (three conditions and two group memberships). Assuming an effect size of d=.25 and a power of 80%, a minimum sample size of 196 was recommended. Finally, for the third analysis, we selected logistic regression. The two-tail test was selected, and an Odd ratio of 1.49 was calculated. Further, a power of 80% was expected. Results suggest a minimum sample size of 213. Altogether, these results suggest a minimum average sample size of 172.

Ethics

The PSY S-REC – UEA School of Psychology Research Ethics Subcommittee approved the project on April 3rd 2022 (reference: ETH2122-1392). The study was advertised through Prolific (convenience sample), and participants were compensated £0.84 for their time in this 10-minute study.

Material

Tweet thread.

To manipulate meta-perception and the perception of the outgroup held by Democrats and Republicans (Study 5a) or by Blacks and Whites (Study 5b), we created fake tweet threads using Tweetgen website. For both studies, three fake tweet threads were built to support each of our conditions: positive perceptions, negative perceptions, and control. The fake tweets threads were composed of five tweets posted by @NewsOfTheDay, a fake certified tweet account invented for the purpose of the experiment. In the positive and negative conditions, the tweet thread relayed part of a news article describing a report released by The United Nations Commission on Social Cohesion and depicting either the positive or the negative perception of both groups (5a: Democrats and Republicans; 5b: Blacks and Whites) regarding each other on several dimension (i.e., competence, sociability, morality). In the control condition, the tweet gave participants information about U.S. tourism and the pandemic's impact on this economic sector.

The article content was created for the experiment and inspired by Hodson and

Bruneau (2016) material. The five tweets were conceived as follows: the first tweet included the article picture, its headline and an inactive link to the article. Pictures were selected to be similar for negative and positive conditions and further support the text content (e.g., Black and White faces turning back to or facing each other, respectively, illustrating the negative and positive conditions). The control condition was composed of a random picture depicting travel in the U.S. (e.g., Suitcase and U.S. Cities names). The subsequent four tweets were quotations of the article content and supported our manipulation. In the control condition, they presented random information regarding the effect of the Pandemic. In the positive and negative conditions, they presented a study revealing that both targeted groups (5a: Democrats and Republicans, 5b: Black and Whites) see each other positively (or negatively) on various dimensions (i.e., competence, morality and sociability). The last tweet presented a quote from Dr Johnson, the (imaginary) researcher behind the study (see Appendix J for material, including tweet thread pictures).

Live chat.

To increase participants' feelings of a real chat platform and reinforce the believability that an actual interaction would occur, various pictures were used, including photos with the name of the platform and the number of other participants online at the moment (From 3 to 6 other participants online), animated pictures indicating the loading of the partner profile or a failed connection picture (see Appendix J for a description of each page and example of such pictures).

Profile.

Four profiles were created[15]. They varied on the following criteria: 1) partner group membership (5a: political affiliation; 5b: race) with two ingroup and two outgroup members; 2) partner age (2 partners of around 30 years old and two partners of around 50 years old); 3) partner nickname (different for each). Gender matches participants' gender. People identifying as non-binary/other/prefer not to say were randomly presented with either a Female or Male profile list. Education and country were the same for all four profiles. For example:

Nickname: PW15

Age: 49

Gender: Female

Race/Ethnic group: Black or African American

Education: Some university

Country: United States

Measures.

Meta-perception and perception of the outgroup. Self (5a: α=.97; 5b: α=.98) and group meta-perceptions (5a: α=.95; 5b: α=.97) and perception of the outgroup (5a:α=.95; 5b: α=.98) were measured using the 11-items version of Livingstone et al. (2019) semantic differential scale. Participants were asked to rank the items on a 1 (positively- anchored scale end) to 7 (negatively anchored scale end). Items cover four dimensions: competence, warmth/sociability, morality, and positivity.

Feelings of similarity. Feelings of similarity with the ingroup and the outgroup were measured using two seven-point scales ranging from 1 (very similar) to 7 (very different). An example of an item is "How similar to or different from ... do you consider yourself to be?".

Contact norms. Perception of ingroup and outgroup intergroup contact social norms were measured by adapting two items from Gómez et al. (2011) (5a: α=.86; α=.88; 5b: α=.69; α=.72). Participants were asked, "To what extent do you think ... consider it positive to have ... as friends?" or "would feel comfortable with ... in general". All items were measured on a 7-point scale ranging from 1 (totally disagree) to 7 (totally agree).

Contact engagement (intentional). Crisp and Husnu (2011) contact intentions measure toward older adults was adapted to be used with Democrats and Republicans (Study 5a; α=.92) and Blacks and Whites (Study 5b; α=.91). Participants were asked: "Think about the next time you find yourself in a situation where you could interact with a

[15]Before the main study, we conducted a pilot study to test the procedure. See Appendix K for details. We modified the procedure and included four profiles instead of one based on the results. With this change, we aim to give participants a choice between engaging or not with an outgroup or an ingroup partner. Additionally, we were hoping to reduce the salience of our manipulation.

... (e.g., waiting in line for a bus, with friends in a café, etc.):", and answer seven questions related to that situation. Sample items are: "How interested would you be in striking up a conversation?" (1-Not at all, to 7-Highly likely); "How much do you intend to interact with a ... in the future?" or "How willing would you be to participate in a discussion group that includes both ... and ..., that will focus on political topics?" (1-Not at all, to 7-Very much).

Contact avoidance intention. We used Fowler and Gasiorek (2020) two items scale to measure contact avoidance intention (5a: α=.93; 5b: α=.97). Items were: "I would want to avoid interacting with ...?"; "I would prefer not to interact with ...?", ranging from 1 (strongly disagree) to 7 (strongly agree).

Contact engagement (actual). Actual intergroup contact engagement was accessed by asking participants their choice of partner between two ingroup and two outgroup partners' profiles. The default choice was the profile of a 30-year-old outgroup member.

Attention check. This study used two attention checks. The first test was an Instructional Manipulation Check (IMC), requiring participants to select a specific answer. The second test was a nonsensical item test and required participants to answer the following question "I fly from France every day to go to work". Both 'strongly disagree' and 'disagree' were accepted as answers. Both attention checks were created based on Prolific fair attention check guidelines.

Article evaluation. Participants were asked to answer a few questions regarding the tweet thread they had read, including questions about the content (open question), the title, the valence of the information (positive vs negative - relative to their condition) and the clarity, readability and overall interest of the tweet thread.

Five questions were designed to support the cover story (i.e., evaluating people's engagement in news reading) and provide additional information on participants' attention paid to the tweet. Questions related to the title of the article (multiple choice), the content of the article (open question), evaluation of the information presented (various 7-point bipolar scales, e.g., Clear ******* Unclear) and finally, the valence of the article (e.g., Positive or negative).

Procedure

The study was adverted on prolific as a material test for future studies. It consists of 4 tasks: 1) reading a tweet thread and answering some questions about it; 2) interacting with someone for a short amount of time; 3) completing some scales; 4) evaluating material. This cover story was chosen to reduce people's fear of judgment, reduce the effects of knowing the study's purpose, and the potential lack of realism of the interaction platform.

While completing the study, participants started by informing their consent and answering demographic questions, helping us confirm our pre-screeners.

Task 1: article reading and evaluation. "In this task, you will read a tweet presenting a news article. Please read this tweet carefully, as you will be asked questions about it later." Following this short instruction, participants were presented with the tweet thread corresponding to the condition they had been randomly assigned to (i.e., positive, negative or control). They then completed the article evaluation questions.

Task 2: interaction (partner choice). We informed participants that they would now take part in a brief interaction with another person to discuss the tweet thread and ways to improve it (e.g., clarity, form, credibility). They were also told that short interactions could improve ideas development. Additionally, we led participants to believe they had been placed in the choice"condition:

> "You have been placed in the **choice** condition. This means that you will be asked to choose between different partners (number depending on availability). Your partner will not know you were able to choose them. The person(s) you do not choose will not know you did not choose them. Please take time to consider your choice."

Participants then accessed the fake live chat platform and chose a nickname. After a *trying to connect* page, participants read the four profiles of their potential interaction partner. Once their choice was made, the website indicated that the connection had failed, and participants were automatically redirected toward the third task.

Task 3: measures. Participants were informed that despite the failure to connect, their data were still valuable and were presented with the meta-perception, perception

of the outgroup, feelings of similarity, social norms, attention check and contact engagement and avoidance intention measures in random order.

Task 4: evaluation of the study. Participants evaluated the three tasks they took part in previously. Questions related to the believability of the tweet thread, the profiles and the live chat platform presented. Additionally, participants were asked questions regarding their choice of partner, the reason for not selecting the default (if they choose another profile) and their anxiety level regarding future interaction and reading the profiles of their partners.

Finally, participants were debriefed. After learning the real purpose of the experiment, they were asked whether they desired to withdraw their consent.

Results: Study 5a (Political context)

Predicting contact

Actual contact.

The impact of condition and group membership. A binary logistic regression was performed to ascertain the effects of condition and group membership on the likelihood that Democrats and Republicans will choose to interact with an ingroup or an outgroup member. Descriptive statistics regarding the choice of a partner can be found in Table 24. Our condition variable was entered as a categorical variable. It was automatically transformed by R as two dummy variables with the control condition as the baseline group. The logistic regression model was not statistically significant, $\chi^2(5,\ N= 211) = 4.9884$, Nagelkerke R^2 =221.80, $p = <.41$. This suggests that our manipulation had no direct impact on both Democrats' and Republicans' choice of inter- (vs intra-) group partner.

The impact of perceptions and contact norms. We also conducted a series of binary logistic regressions to ascertain the effects of perception, social norms, and contact intention on intergroup contact avoidance (i.e., the likelihood that Black and White people will choose to interact with an ingroup or an outgroup member), while controlling for the effect of condition and group membership.

Table 23

Results of the multiple binary logistic regression predicting partner choice.

Variable	OR	95% CI		*p*
		L	U	
Condition (negative)	2.21	0.99	5.14	.06
Condition (positive)	1.69	.72	4.08	.24
Group membership (Republican)	.70	.70	1.34	.28

Table 24

Number of participants choosing an ingroup or an outgroup partner depending on their group membership and the condition.

Condition	Group membership	Partner selected	
		Ingroup	Outgroup
Positive	Democrat	24	9
	Republican	28	7
	Total	52	16
Negative	Democrat	27	12
	Republican	28	9
	Total	55	21
Control	Democrat	32	7
	Republican	52	11
	Total	84	18
Total	Democrat	83	28
	Republican	108	27

Results indicate that self-meta-perception, outgroup contact norms, contact intention and material rating (e.g., readability, written quality, believability) were not significantly associated with the choice of the interaction partner.

On the other hand, group meta-perception, perception of the outgroup, perceived similarity with the outgroup and the ingroup, ingroup contact norms and avoidance intention were all significantly associated with a change in interaction partner (see Table 78 in Appendix L). Specifically, avoidance of outgroup members (i.e., by selecting an ingroup member) was higher when meta-perception or perception of the outgroup were more negative, when participants considered themselves as less similar to the outgroup or more similar to the ingroup or when outgroup avoidance intention was higher. Additionally, more

positive ingroup norm was associated with a lower risk of avoiding outgroup members.

Contact intention.

The impact of condition and group membership. The impact of both the condition and the group membership on contact and avoidance intention were examined with a 3 (Condition: Positive, Negative, Control) X 2 (Group membership: Democrat vs Republican) repeated measure analysis of variance (ANOVA).

No main or interaction effects were found for contact intention. However, a main effect of group membership was found for contact avoidance intention ($F(1, 211) = 12.26$, $p < .001$), with Democrats indicating a greater desire to avoid Republicans than the opposite (see Table 27).

The impact of perceptions and contact norms. We also examined the effect of perceptions and contact norms on intergroup contact intention. Two multiple regressions were conducted with contact and avoidance intention as outcome variables and meta-perception (self and group), perception of the outgroup, feelings of similarity (to the ingroup and outgroup) and intergroup contact norms (ingroup and outgroup) as predictors while controlling for the effect of condition and group membership.

The multiple linear regression results indicated a collective significant effect between perceptions, norms, similarity, context and contact intention ($R^2 = .62$, $F(11,205) = 30.3$, $p = <.001.$) or avoidance ($R^2 = .68$, $F(11,205) = 42.36$, $p = <.001.$) intention. The individual predictors were examined further and indicated that perception of the outgroup, feelings of similarity with the ingroup and avoidance negatively predict contact intention. In other words, reduced positive perception of the outgroup, higher perception of similarity with the ingroup and desire to avoid the outgroup predicts less desire to engage in contact with said outgroup (see Table 25 for estimates). On the other hand, the intention to avoid the outgroup was predicted by more negative meta-perceptions (self and group), perceptions of the outgroup and perception of a higher degree of similarity with said outgroup and reduced intention to interact with the outgroup (see Table 26).

Table 25

Table of regression models for variables predicting contact intention.

Variable	*B*	SE	Stat	*p*
(Intercept)	6.97	.66	10.53	<.001
Meta-perception (self)	.06	.05	1.15	.25
Meta-perception (group)	.12	.07	1.62	.11
Perception of the outgroup	-.32	.09	-3.7	<.001
Contact norm (ingroup)	.05	.06	.83	.40
Contact norm (outgroup)	.07	.07	1.03	.30
Avoidance intention	-.49	.05	-9.28	<.001
Similarity (ingroup)	-.10	.05	-1.99	.05
Similarity (outgroup)	-.02	.06	-.25	.80

Table 26

Table of regression models for variables predicting avoidance intention.

Variable	*B*	SE	Stat	*p*
(Intercept)	.11	.87	.13	.90
Meta-perception (self)	.24	.07	3.73	<.001
Meta-perception (group)	-.21	.09	-.23	.03
Perception of the outgroup	.64	.10	6.13	<.001
Contact norm (ingroup)	-.06	.08	-.77	.44
Contact norm (outgroup)	-.13	.09	-.41	.16
Contact intention	.05	.07	.67	.50
Similarity (ingroup)	.30	.08	3.87	<.001
Similarity (outgroup)	-.02	.06	-.25	.80

Reasons behind contact engagement and avoidance

Participants answered open-ended questions about their choice of partner, including the reason behind their choice of an ingroup or outgroup partner or their avoidance of the outgroup partner presented as the default choice. Again, answers fell into five categories: (general) similarity, age (e.g., same, different, generation preference), group membership (e.g., same or different), and contact experience (e.g., expectation, perspective or opinion, conflict avoidance). One or more reasons were coded from each participant's answers. In the below summary, percentages represent the percentage of answers, including the mentioned category as a reason behind the action (i.e., avoidance, ingroup selection, outgroup selection). Example: 66% of Democrats' answers for avoidance mentioned group member-

ship as a reason.

Avoidance.

Both Democrats (66%) and Republicans (75%) designated group membership as the main reason behind their avoidance of the outgroup, a result consistent across all conditions.

Outgroup selection.

Group membership (61%) and contact expectation (53%) were the two main reasons behind Democrats' choice of an outgroup member as a partner. Specifically, while group membership was mentioned more often in the control and positive conditions, contact experience was the main reason in the negative condition, with 90% of the answers mentioning it. For Republicans, group membership (60%) followed by contact experience (45%) was the main reason for choosing across all conditions. Age was also an important reason for both groups (i–e., Democrats - 50–; Republicans - 60%) but was more related to the choice of an older rather than younger partner.

Ingroup selection.

Democrats and Republicans indicated Age (D: 67%; R: 70%) and group membership (D: 56%; R: 65%) as the main reasons behind their choice of an ingroup member. This was consistent across all conditions. Specifically, participants indicated the desire to avoid conflict with outgroup members. Additionally, for Democrats in the control condition, 19% of the answers mentioned discussing the Pandemic with Republicans as a reason behind their ingroup preference.

Manipulation checks

The impact of both the condition and the group membership on perception (i.e., meta-perception [self, group], perception of the outgroup, feelings of similarity [ingroup, outgroup]), and contact norms (ingroup, outgroup) were examined with a 3 (Condition:

Positive, Negative, Control) X 2 (Group membership: Democrat, Republican) repeated measure analysis of variance (ANOVA).

Table 27

Means and standard deviation as a function of group membership.

Variable	Group membership			
	Democrats		Republicans	
	Mean	(sd)	Mean	(sd)
Meta-perception (self)	4.20	1.34	3.82	1.54
Meta-perception (group)	5.31	1.09	5.22	1.11
Perception of the outgroup	5.02	1.07	4.65	1.23
Contact norm (ingroup)	3.18	1.18	3.60	1.32
Contact norm (outgroup)	2.54	1.18	2.84	1.43
Contact intention	3.80	1.39	4.17	1.44
Avoidance intention	4.41	1.77	3.59	1.63
Similarity (ingroup)	2.84	1.27	2.75	1.17
Similarity (outgroup)	5.73	1.24	5.13	1.38

Table 28

Means and standard deviation as a function of condition.

Variable	Condition					
	Positive		Negative		Control	
	Mean	(sd)	Mean	(sd)	Mean	(sd)
Meta-perception (self)	3.75	1.49	4.20	1.42	4.06	1.42
Meta-perception (group)	4.89	1.09	5.56	0.99	5.30	1.13
Perception of the outgroup	4.57	1.27	4.79	1.10	5.14	1.06
Contact norm (ingroup)	3.68	1.34	3.09	1.26	3.43	1.15
Contact norm (outgroup)	3.07	1.36	2.47	1.28	2.55	1.25
Contact intention	4.14	1.26	3.88	1.50	3.95	1.49
Contact intention	3.70	1.61	3.92	1.83	4.37	1.74
Similarity (ingroup)	2.82	1.19	2.82	1.41	2.74	1.05
Similarity (outgroup)	5.13	1.34	5.64	1.28	5.49	1.38

Perception.

Democrats' self-meta-perception ($F(1, 211) = 3.53$, $p = .035$) and perception of the outgroup ($F(1, 211) = 5.18$, $p = .024$) are more negative than Republicans'. Additionally,

the main effect of condition revealed that group meta-perception ($F(2, 211) = 7.04$, $p = .001$) is more negative in the negative than the positive condition and perception of the outgroup ($F(2, 211) = 4.27$, $p = .015$) is more negative in the control than the positive condition. No main or interaction effects were significant regarding perceived ingroup similarity. However, Democrats felt less similar to Republicans than the opposite ($F(1, 211) = 10.79$, $p = .001$).

Social norms.

A significant main effect of condition was found for both ingroup ($F(2, 211) = 3.99$, $p = .020$) and outgroup ($F(2, 211) = 4.22$, $p = .016$) intergroup contact norms with the participants in the positive condition perceiving more positive ingroup and outgroup contact norms compared to the negative condition and the control condition (i.e., Outgroup norms only). A main effect of group membership was found for ingroup intergroup contact social norms ($F(1, 211) = 6.07$, $p = .015$). Republicans reported higher ingroup contact norms than Democrats.

Discussion

This study aimed to test the impact of (social) media representation and perceptions (meta-perception, perception of the outgroup) manipulation on "real" contact opportunity in the U.S. political context. To do so, we used a mock social media design to manipulate participants' perceptions' valence (positive, negative, control) before they chose between an ingroup or outgroup partner. We expected participants' group membership and our manipulation of perception valence to influence people's actual perceptions, intentions, and intergroup behaviour.

The results of this study revealed no effect of either our manipulation of perception valence or participants' group membership (i.e., Democrat vs Republican) on the choice of an interaction partner. On the other hand, our *manipulation* influenced perceptions (i.e., group meta-perception, perception of the outgroup, ingroup and outgroup contact norms) but not intention (contact intention and avoidance intention). Indeed, group meta-perception was more negative in the negative than the positive condition and participants

perceived higher normative support (ingroup and outgroup) in the positive than the negative condition. Finally, the perception of the outgroup was more negative in the control than in the positive condition. Further, *group membership* predicted both perceptions (self and group meta-perception, perception of the outgroup, ingroup norms, perceived similarity with the outgroup) and intention (contact and avoidance intention). Additionally, when exploring participants' explanations regarding their choice of partner, we found that overall, group membership was the main reason, followed by contact experience (i.e., Mainly conflict avoidance) for both groups.

Further, perception of the outgroup predicted both avoidance and contact intention, while feelings of similarity with the ingroup and avoidance intention only predicted contact intention. On the other hand, meta-perception (self and group), feelings of similarity with the outgroup, and perception of the outgroup predicted avoidance intention, with more negative perception predicting higher intention to avoid the outgroup. Finally, we found that, unlike our manipulation, both perceptions (group meta-perception, perception of the outgroup, perceived similarity with the ingroup and the outgroup, ingroup contact norms) and intention (avoidance intention) predicted partner choice, with more negative perceptions, increased feeling of similarity with the ingroup, reduced feeling of similarity with the outgroup and ingroup normative support, and increased intention to avoid the outgroup predicting less actual contact engagement.

Altogether, despite the limited effect of our manipulation, those results provide evidence of the role of meta-perception, perception of the outgroup and norms in intergroup contact engagement (real and intentional). In addition, they give an insight into the role media (can) play in these effects in the U.S. political context (Democrats vs Republicans).

Results: Study 5b (Racial context)

Predicting contact

Actual contact.

The impact of condition and group membership. A binary logistic regression was performed to ascertain the effects of condition and group membership on

the likelihood that Black and White people will choose to interact with an ingroup or an outgroup member. Descriptive statistics regarding the choice of a partner can be found in Table 30. Our condition variable was entered as a categorical variable. It was automatically transformed by R as two dummy variables with the control condition as the baseline group. The logistic regression model was statistically significant, χ^2 (5, N= 214) = 31.799, Nagelkerke R^2 =270.56, p = <.001. The choice of inter (vs intra-) group contact was more highly associated with the negative than the control condition (b=-1.64, Wald χ^2(2)= 3.14, p =.003, OR=-0.42 95% CI [.31,1.24]). Group membership was also associated with interaction choice. Outgroup partner choice was higher among White than Black participants (b=-2.16, Wald χ^2(2)= -3.76, p = <.001, OR=0.25, 95% CI [.14,.45]).

Table 29

Results of the multiple binary logistic regression predicting partner choice.

Variable	OR	95% CI		*p*
		L	U	
Condition (negative)	2.38	1.18	4.90	.02
Condition (positive)	1.62	.81	3.28	.18
Group membership (White)	3.93	2.23	7.05	.001

Table 30

Number of participants choosing an ingroup or an outgroup partner depending on their group membership and the condition.

Condition	Group membership	Partner selected	
		Ingroup	Outgroup
Positive	Black	20	13
	White	12	30
	Total	32	33
Negative	Black	17	21
	White	11	28
	Total	28	49
Control	Black	25	6
	White	12	25
	Total	37	31
Total	Black	62	35
	White	40	83

The impact of perceptions and contact norms. Next, we decided to control for the effect of perceptions (self and group meta-perception, perception of the outgroup), feelings of similarity, social norms and contact engagement and avoidance intention on interaction partner choice. A series of binary logistic regressions were performed to ascertain the effects of each variable on the likelihood that Black and White people will choose to interact with an ingroup or an outgroup member while controlling for the effect of condition and group membership.

Results indicate that meta-perception (self and group), perceived similarity to the ingroup, contact intention, outgroup contact norms and material rating (e.g., readability, written quality, believability) were not significantly associated with the choice of the interaction partner (see Table 79 in Appendix L). However, perception of the outgroup, similarity with the outgroup, ingroup contact norms and avoidance intention were all significantly associated with changes in interaction partners. Specifically, avoidance of outgroup members (i.e., By selecting an ingroup member) was higher when perceptions of the outgroup were more negative when participants considered themselves less similar to the outgroup or when outgroup avoidance intention was higher. Additionally, more positive ingroup contact norms were associated with a lower risk of avoiding outgroup members.

Contact intention.

The impact of condition and group membership. The effects of both condition and group membership on contact and avoidance intention were examined with a 3 (Condition: Positive, Negative, Control) X 2 (Group membership: Black, White) repeated measure analysis of variance (ANOVA).

Results revealed a main effect of both conditions ($F(2,\ 214) = 3.16,\ p = .044$) and group membership ($F(1,\ 214) = 20.69,\ p < .001$) on contact intention with lower intergroup contact intention in the negative than control condition and higher intergroup contact intention among White than Black people. Similarly/accordingly, Black participants indicated a greater desire to avoid contact with White than the opposite ($F(1,\ 214) = 28.83,\ p < .001$). No main effect of condition or interaction effect was found for contact avoidance intention.

The impact of perceptions and contact norms. We also examined the effect of perceptions and norms on intergroup contact intention. Two multiple regressions were conducted with contact and avoidance intention as outcome variables and meta-perception (self and group), perception of the outgroup, feelings of similarity (to the ingroup and outgroup) and intergroup contact norms (ingroup and outgroup) as predictors while controlling for the effect of condition and group membership.

The multiple linear regression results indicated a collective significant effect between perceptions, norms, similarity, context and contact intention ($R^2 = .52$, $F(11,208) = 20.51$, $p = <.001.$) or avoidance($R^2 = .52$, $F(11,208) = 20.51$, $p = <.001.$) intention. The individual predictors were examined further and indicated that self meta-perception, perception of the outgroup, feelings of similarity with the outgroup and avoidance negatively predict contact intention. In other words, reduced positive self meta-perception and perception of the outgroup, reduced perception of similarity with the outgroup and desire to avoid the outgroup predicts less desire to engage in contact with said outgroup (see table 31 for estimates). On the other hand, intention to avoid the outgroup was predicted by more negative perceptions of the outgroup, and reduced intention to interact with the outgroup.

Table 31

Table of regression models for variables predicting contact intention.

Variable	*B*	SE	Stat	*p*
(Intercept)	6.65	0.66	10.05	<.001
Self meta-perception	-.20	.06	-3.26	<.001
Meta-perception (group)	.11	.07	1.63	.11
Perception of the outgroup	-.25	.07	-3.48	<.001
Ingroup norms	.05	.07	.75	.45
Outgroup norms	.06	.07	.90	.37
Avoidance intention	-.31	.06	-5.41	<.001
Similarity (ingroup)	.02	.05	.37	.71
Similarity (outgroup)	-.13	.05	-2.62	.01

Reason behind contact engagement and avoidance

Participants answered open-ended questions about their choice of partner, including the reason behind their choice of an ingroup or outgroup partner or their avoidance of

Table 32

Table of regression models for variables predicting avoidance intention.

Variable	*B*	SE	Stat	*p*
(Intercept)	.42	0.79	0.53	0.596
Self meta-perception	.08	0.07	1.12	0.263
Meta-perception (group)	-.02	.08	-.20	.84
Perception of the outgroup	.46	.08	5.86	<.001
Ingroup norms	-.02	.08	-.25	.80
Outgroup norms	-.07	.08	-.94	.35
Avoidance intention	-.07	.05	-.23	.22
Similarity (ingroup)	.18	.06	3.06	.002
Similarity (outgroup)	-.13	.05	-2.62	.01

the outgroup partner presented as a default choice. Overall, answers fell into five categories: similarity (or difference, in general), age (same, different, generation preference), group membership (same or different), and contact experience (e.g., Expectation, perspective/opinion, conflict). One or more reasons were coded from participants' answers. In the below summary, the percentage represents the percentage of answers, including the mentioned category as a reason behind the action (i.e., avoidance, ingroup selection, outgroup selection). For example, 55% of Blacks' answers about avoidance mentioned group membership as a reason.

Avoidance.

For Black participants, the main reason behind avoiding an outgroup partner was group membership (55%) across all conditions. For White participants, on the other hand, age was raised as the main reason in the control (58%) and positive (50%) conditions. At the same time, contact experience (45%) was the main avoidance reason for participants in the negative condition.

Outgroup selection.

For Black and White participants, age (63% and 75%) was raised as the main reason behind their choice of an outgroup partner; however, this was more reflective of the participants' choice of an older partner. Interestingly, both Blacks and Whites mentioned

contact experience and group membership as the main reason behind their choice of an outgroup partner. Specifically, choosing an outgroup partner was motivated by the desire to confront their point of view with someone from the other group. These reasons were consistent across conditions.

Ingroup selection.

The main reason behind the selection of an ingroup member by Black participants was based on group membership (58%) and closely followed by general similarity (42%) and age (43%), indicating the desire to interact with someone similar to them, including in terms of age and group membership. Again, this was consistent across conditions. For White participants, the main reason (across conditions) behind the choice of an ingroup member was age (66%) and general similarity (37%). Similarly to Black participants, their preference for an ingroup member was motivated by the feelings of similarity; however, unlike for Black participants, group membership similarity was not one of the main reasons. This could be due to fear of appearing prejudiced.

Manipulation checks

The impact of both the condition and the group membership on perception (i.e., Meta-perception [self, group], perception of the outgroup, feelings of similarity [ingroup, outgroup]), and contact norms [ingroup, outgroup] were examined with a 3 (Condition: Positive, Negative, Control) X 2 (Group membership: Black, White) repeated measure analysis of variance (ANOVA).

Perception.

We found a significant main effect of group membership on self ($F(1, 214) = 7.41$, $p = .007$) and group meta-perception ($F(1, 214) = 55.45$, $p < .001$) as well as perception of the outgroup ($F(1, 214) = 29.73$, $p < .001$), revealing that Black participants tend to have more negative perceptions than White participants. Additionally, we found a significant main effect of condition on group meta-perception ($F(2, 214) = 11.04$, $p < .001$) with more negative group meta-perception in the negative than in the positive condition.

Table 33

Means and standard deviation as a function of group membership.

Variable	Group membership			
	Blacks		Whites	
	Mean	(sd)	Mean	(sd)
Meta-perception (self)	3.31	1.50	2.82	1.11
Meta-perception (group)	5.03	1.24	3.90	1.06
Perception of the outgroup	3.59	1.21	2.65	1.32
Contact norms (ingroup)	4.06	1.16	4.90	1.10
Contact norms (outgroup)	3.90	1.08	4.41	1.27
Contact intention	4.55	1.37	5.38	1.27
Avoidance intention	2.51	1.51	1.52	1.20
Similarity (ingroup)	2.67	1.55	2.81	1.35
Similarity (outgroup)	4.33	1.59	3.56	1.46

Table 34

Means and standard deviation as a function of condition.

Variable	Condition					
	Positive		Negative		Control	
	Mean	(sd)	Mean	(sd)	Mean	(sd)
Meta-perception (self)	2.82	1.27	3.26	1.44	3.05	1.23
Meta-perception (group)	3.97	1.37	4.87	1.13	4.45	1.16
Perception of the outgroup	2.82	1.17	3.29	1.35	3.17	1.50
Contact norms (ingroup)	4.80	1.14	4.16	1.16	4.55	1.23
Contact norms (outgroup)	4.55	1.18	3.95	1.22	4.00	1.14
Contact intention	5.12	1.33	4.67	1.42	5.21	1.34
Avoidance intention	1.84	1.24	2.14	1.56	1.97	1.51
Similarity (ingroup)	2.79	1.62	2.87	1.34	2.56	1.35
Similarity (outgroup)	3.70	1.69	4.26	1.36	3.78	1.59

Finally, we found no significant main (i.e., condition or group membership) or interaction effect on feelings of similarity with the ingroup. However, we found a significant main effect of group membership (but not condition or the interaction) on feelings of similarity with the outgroup ($F(1, 214) = 13.51$, $p < .001$). Black participants felt less similar to White participants than the opposite.

Social norms.

A main effect of condition (1) and group membership (2) was found for ingroup (1 - $F(2, 214) = 5.52$, $p = .005$; 2 - $F(1, 214) = 29.68$, $p < .001$) and outgroup (1 - $F(2, 214) = 5.91$– p = .003; 2 - $F(1, 214) = 9.76$, $p = .002$) intergroup contact norms. White participants perceived more positive ingroup and outgroup contact norms than Black participants. Additionally, both ingroup and outgroup contact norms were perceived as more positive in the positive condition than either the negative or control condition. No significant differences were found between the latter.

Discussion

As in Study 5a, the aim was to explore the effect of media representation and perceptions (meta-perception, perception of the outgroup) manipulation on "real" intergroup contact engagement, this time in the U.S. racial context'. Participants' perceptions valence (positive, negative, control) was manipulated using a mock social media design before choosing between an ingroup or an outgroup partner. We expected participants' group membership and our manipulation of perception valence to influence people's actual perceptions, intentions, and intergroup behaviour.

Study 5 b's results, unlike Study 5a, revealed an effect of both our manipulation of perception valence and participants' group membership on the choice of an interaction partner, with White participants selecting more outgroup partners than Black participants. Participants' explanation of their choice supports this result as group membership is one of the main reasons, followed by similarity for choosing an outgroup partner. On the other hand, the effect of our manipulation was limited as only the difference between the negative and control condition was significant, with surprisingly more choice of an outgroup partner in the negative condition. Whilst it is possible that participants could be intending to argue or be hostile with the outgroup partner in this condition, we believe that is generally unlikely. We believe this is likely more reflective of a desire to gain a better understanding of the situation. Often participants reflect on differences in experience and opinion and the desire to contrast this. Given the nature of the conditions, it appears then logical that more outgroup partner is selected in the negative condition as a way to contrast their views on

the survey presented as a manipulation. In summary, we believe this is more reflective of a conciliatory tone, with the idea that perhaps participants try to relieve feelings of guilt *or* it is simply an occasion for the participant to distance themselves personally from a negative group response. Additionally, both our manipulation and group membership influenced perceptions (self and group meta-perception, perception of the outgroup, ingroup norms, perceived similarity with the outgroup) and intention (contact and avoidance intention), with the perception of higher normative support (ingroup and outgroup) and more positive group meta-perception in the positive than the negative condition. Further, self meta-perception, similarity with the ingroup, avoidance intention and condition (i.e., valence manipulation) predicted contact intention, with more negative perceptions, higher feelings of similarity with the ingroup and higher desire to avoid the outgroup predicting less intention to interact in the future. Avoidance intention was also predicted by contact intention. Perception of the outgroup predicted both, with more negative perceptions of the outgroup predicting less intention to interact and a greater intention to avoid the outgroup.

Finally, perceptions (Perception of the outgroup, perceived similarity with the outgroup, ingroup contact norms) and intention (avoidance intention) predicted partner choice to some extent.

Altogether, our results provide evidence of the role of perception on intergroup contact engagement and give insight into the role media (can) play in the racial context in the U.S. (Black vs Whites). Further, our results support the idea of context dependence by demonstrating differences in the effect observed between the political and racial context in the U.S. and between groups of different statuses within one context (Black vs White).

General discussion

This study aimed to explore perception's role in intergroup contact engagement. Previous results obtained in Chapter 3 suggested a joint role of meta-perception and perception of the outgroup on intergroup contact engagement intention, an effect dependent on the context (e.g., environment, intergroup context). Building on those results, this study aimed to test the impact of (social) media representation and perceptions (meta-perception,

perception of the outgroup) manipulation on "real" intergroup contact engagement. More precisely, it aimed to explore: 1) the impact of social media on perception; 2) see the effects of such manipulation on people's actual engagement with outgroup members (above and beyond contact intention); 3) explore further the role of meta-perception, perception of the outgroup and intergroup contact norms in intergroup contact engagement (i.e., intention and actual); 4) all of this in two different intergroup contexts (5a: U.S. political context; 5b: U.S. racial context).

We expected differences based on group membership and our manipulation of perception (positive, negative, control; meta-perception and perception of the outgroup manipulation). While we had no clear expectation of how these differences would manifest regarding group membership, we expected our manipulation to have different effects depending on the perception's valence. Specifically, we expected more positive perceptions (self and group meta-perception, perception of the outgroup), perception of more positive contact norms (ingroup and outgroup), as well as a higher degree of feeling of similarity, contact intention and selection of an outgroup partner, and reduced avoidance intention in the positive condition (compared to the negative and control condition) and reversed results in the negative condition (compared to the positive and control condition). Finally, we expect a difference in explanation based on group membership and conditions. We also expect different types of explanations regarding avoidance of the default partner, choice of an outgroup partner or an ingroup partner.

The role of group membership (aka context)

As expected, group membership influenced perception (self and group meta-perception, perception of the outgroup), contact norms (ingroup), perceived similarity (with the outgroup) and intention (contact and avoidance intention) in both intergroup contexts (1: political; 2: racial). Indeed, in both intergroup contexts, we found differences based on group status. For instance, Blacks' perceptions and feelings of similarity to the outgroup were more negative/lower than Whites'. A similar effect was found for Democrats compared to Republicans.

On the other hand, group membership had different effects on participants' part-

ner selection in both between and within intergroup contexts. Indeed, while Democrats' and Republicans' partner selection was relatively similar (no effect of group membership), Blacks and Whites participants adopted different behaviour. More precisely, Whites selected more outgroup partners compared to Blacks. The reason presented by the participants partly explains this. Black and White participants' partner selection was mainly dictated by group membership and feelings of similarity (or difference) with the ingroup (or outgroup) partner. On the other hand, Democrats and Republicans both largely avoid outgroup partners because of group membership and perspective (i.e., Conflict avoidance). Additionally, avoidance of the outgroup was generally higher among Democrats and Republicans than among Black and Whites.

Overall, our results are coherent with the literature, supporting the idea that groups can not only be defined differently (e.g., attitudes vs race) but also have different histories and power relations and that these factors influence contact effect and engagement. Indeed, these results extend previous research by demonstrating that just like emotional reaction to threat or engagement in collective action, perception role in intergroup contact engagement is dependent on the group concerned and the status they hold as well as the general intergroup context (Alston, 2022; Cottrell & Neuberg, 2005; Meleady et al., 2017). In other words, factors have a different impact on Blacks and Whites within the racial context and different effects in a racial vs political intergroup context. A fact partly explained by a difference in the intergroup contact approach. While in the political context, group membership is less salience and conflictual topic easily avoided, group membership is more salient in the racial context, and inequalities can be seen without even discussing it. Overall, our results further highlight the importance of considering intergroup context when testing intergroup contact engagement predictors and designing interventions due to within and between context differences.

Predicting (actual and intentional) contact engagement.

Our results support our hypothesis of the role of perceptions and norms in intergroup contact engagement as we found that more positive perceptions and norms predicted a higher engagement rate.

It also extends previous studies that found an effect of meta-perception, perception of the outgroup and contact norms on intergroup contact engagement (intention and actual; Adra et al., 2020; Borinca et al., 2021; Kteily & Hodson, 2016; MacInnis & Hodson, 2012; Matera et al., 2020; Meleady, 2021; Obaidi, 2019). For instance, previous studies found that meta-humanisation predicted intentional contact engagement in two contexts (i.e., Kosovo and North Macedonia; Borinca et al., 2021, p.2) or that meta-prejudice predicted actual contact engagement among White people (MacInnis & Hodson, 2012). Similarly, studies found that outgroup norm strongly predicted intentional contact engagement (Cameron et al., 2011) and ingroup norm a predictor of actual contact engagement with immigrants (Meleady, 2021).

Our results extend previous studies by demonstrating that perception of the outgroup, feeling of similarity with the outgroup, ingroup contact norms, and contact avoidance intention predict actual contact engagement (i.e., outgroup partner selection) in both intergroup contexts. Indeed, more negative perceptions, contact norms, and a higher desire to avoid the outgroup predicted less engagement in intergroup contact.

Additionally, in the political context, group meta-perception and similarity to the ingroup were also predictors of intergroup contact engagement, with less engagement when individuals thought their group was perceived negatively and considered themselves reasonably similar to the ingroup.

Beyond giving further support for the role of these predictors, our results also give insight into the difference between intentional and actual contact engagement. While some predictors, such as perception of the outgroup or avoidance intention, predict both contact intention and actual engagement in contact. Other factors predicted *only* contact intention. For instance, in the political context, only contact intention was predicted by our experimental manipulation (i.e., condition). In the racial context, self meta-perception predicted intentional but not actual contact engagement. This is contradictory with MacInnis and Hodson (2012) results as they found a significant effect of their meta-prejudice manipulation at the behavioural level (i.e., equivalent to our actual contact engagement measure) but not on self-reported contact intention in the same racial context (i.e., Black and White in the U.S.).

Our results thus extend previous findings by demonstrating some impact of perception and norms on actual and intentional contact engagement in different contexts.

The reason behind partner choice

The main reason behind the participants' choice of an interaction partner was group membership. However, this manifested differently depending on the group and intergroup context concerns. Indeed, while in the racial context, the choice was focused on feelings of similarity or difference (including group membership) and the constructive point of view of the partner, in the political context, it was mainly a question to avoid conflict with outgroup members. Further, translating participants' fear of appearing prejudiced, Whites participants avoided mentioning race as the main reason behind their avoidance, using the false pretext of age. Overall, those results are new and provide interesting insights. Most studies avoid openly exploring the reasoning behind participants' choice and their points of view and instead focus on participants' answers to scales about specific factors. While less conventional, this approach provides some interesting answers to results obtained using more classical means. Overall, it is a good exploratory method and demonstrates people's ability to reflect on their own behaviour.

Method: advantage, innovation and limits.

Our results give insight into the effect of manipulating perception and the media's potential role in the question. Indeed, our manipulation of perceptions' valence via mock social media posts influenced participants' perceptions, intentions, and partner selection. While those effects are limited and context-dependent, they still provide helpful information for future studies and interventions.

First, they extend the knowledge existing on perceptions' valence manipulation. Most studies have failed to consistently test both self and group meta-perception and perception of the outgroup. Additionally, they have mainly focused on either negative meta-perceptions (He et al., 2017; Issa & Kunst, 2019; Landry et al., 2021; Vorauer et al., 1998) or meta-perceptions activation (Ma et al., 2021; Vázquez et al., 2017; Vezzali, 2017; Vorauer et al., 2000), providing less evidence of the role of positive meta-perceptions and

ways to manipulate such perceptions. Our results complement those studies by providing evidence of the role of self, group meta-perception and perception of the outgroup, and the impact of positive and negative meta-perception/perception of the outgroup manipulation. However, we acknowledge a limit of the present work: we cannot distinguish between the effect of meta-perception and perception of the outgroup. Indeed, as we decided to manipulate both meta-perception and perception of the outgroup at the same time (i.e., the tweet thread is reflecting on both) we cannot say if the effects are due to meta-perception only, perception of the outgroup only, both or if they cancel each other. This decision was made as it adds to the experimental realism of the study. Selecting only one would have been constrictive. Future studies should use a more precise manipulation to be able to make this distinction. However, we believe this method still provides essential information on the role of perception and is relevant in the sense that perception of the outgroup has been recognised in the literature as a reliable mediator of the effect of meta-perception (hence our combined testing). Further, in three experiments manipulating participants' meta-perception O'Brien et al. (2018) showed that perception of the outgroup was also affected due to its mediating role. Indeed, in their positive condition, both meta-perception and perception of the outgroup were more positive and the reverse was found in the negative condition, further suggesting that differentiating both might not be necessary.

Second, this study provides evidence regarding actual contact engagement. Very few studies have looked at the impact of factors on actual intergroup engagement and focused on intergroup contact intention. Our results indeed supportMacInnis and Hodson (2012) former work demonstrating the influence of self meta-perception (in particular), group meta-perception and perception of the outgroup in predicting both contact engagement (intention and actual). They also extend Meleady (2021) finding regarding the influence of norms on actual contact. However, while this study presents new interesting results by manipulating perceptions and testing its effect on actual contact engagement, a rarely-used method, it has some limits. The success of measuring the impact of perception and context on actual contact engagement was limited by means and time. Indeed, due to reduced funding and the pandemic, an online procedure was chosen, and the believability of the online chat platform was limited, which reduced the ecological validity of our results.

Additionally, our article created a priming of political or racial conversation topics in order to make group membership salient. Despite our attempt to indicate that the discussion will focus on written quality and the article format, participants pointed to their partner's perspective regarding the political or racial topic as a main reason behind their choice of partner, suggesting the choice of a partner might have been biased by their desire to avoid said conversation topic while it might not arise in everyday life interaction.

Third, our model also does not account for negative intergroup contact. As we have mentioned in the introduction, intergroup contact can vary in valence. Negative and positive contact have been identified and there is a debate in the literature regarding how their effect might differ. Some scholars argue that negative intergroup contact might have stronger negative effects (e.g., increase prejudice) than positive contact has positive outcomes (e.g., reduce prejudice Graf et al., 2014). Others argue that positive contact has stronger effects (Brylka et al., 2016). In this project, we have focused on the factors influencing people's decision to engage in positive intergroup contact, or on their avoidance of said positive experience. We acknowledge that positive and negative contact might have different predictors. Similarly, as we have also mentioned in the introduction, meta-perception can have a negative bias (i.e., people think they are perceived more negatively than they are). It might thus be interesting for future research to acknowledge the valence of intergroup contact and explore the antecedent of both positive and negative contact as by looking at both we might get a better understanding of what is at play in real-life intergroup contact. This would particularly be useful when designing interventions to promote people's engagement in positive contact that adapts to the reality of real life.

Overall, despite some limits (e.g., online fake platform), the method employed here allowed us to obtain interesting results regarding predictors of actual contact engagement (as opposed to intentional contact engagement) and inform future studies that will test said actual contact engagement.

Future directions

Those results set the base for new studies manipulating perceptions and actual contact engagement in different intergroup contexts. It will be interesting to explore how

perceptions and norms influence intergroup contact engagement in other intergroup contexts (e.g., based on sexual orientation and gender identity, religion) with different group membership definitions, salience, history and normative context. Additionally, this study could be extended by either using new manipulation of perception techniques or new measures of intergroup contact engagement. For instance, one could imagine a repeated media exposure manipulation influencing participants' meta-perception and perception of the outgroup over a short period of time, or a long-term organic media exposure, exploring how perceptions and norms evolve in time (e.g., the evolution of attitudes toward trans people over the last few years). Similarly, repeated measures of contact levels over time (e.g., Paluck, 2009; Vezzali et al., 2015b), or the use of new (and more objective) measures of intergroup contact engagement, could be used (e.g., GPS data, volunteering engagement tracking) to see how behaviour aligns with perceptions and normative beliefs.

Conclusion

Altogether, this study provides insights into predictors of intergroup contact engagement (intention and actual). Results support the role of (positive) meta-perception and perception of the outgroup and intergroup contact norms in predicting (increase in) intergroup contact engagement. They also further emphasise the importance of considering intergroup context as it highlights differences between racial and political contexts and between groups within one context. Overall, they inform future studies and policies on ways to promote intergroup contact engagement to facilitate social cohesion and reduce intergroup tension.

Part 4

Discussion and conclusion

Chapter 5

General discussion

This final chapter provides a summary of the work presented in this thesis. It provides a summary of the theoretical background and main empirical findings. The theoretical and practical implications of our Perception-norm model (perceptions predict intergroup contact engagement by informing perceptions of contact norms) are discussed, as well as the potential limitations of this work. This chapter concludes by proposing keys for future research.

Theoretical background and aims

This thesis explored the impact of three main factors (i.e., meta-perception, perception of the outgroup, and contact norms) on intergroup contact engagement in two intergroup contexts. With reports of increased conflict between groups, understanding how to promote healthy intergroup relations is a timely and relevant challenge. Over 70 years of research on the intergroup contact theory has demonstrated that positive intergroup contact is a reliable way to improve intergroup relations by reducing prejudice and increasing involvement in intergroup equity. Yet, the real-life effects of positive intergroup contact are limited. Recent reviews on the field suggest this comes from a lack of engagement with intergroup contact opportunities. New research, including the work presented in the previous chapters, focuses on understanding when, how and why people engage in positive intergroup interactions, a problem also referred to as "leading the horse to the water of contact" (Pettigrew et al., 2011, p.168)

The critical review of the literature we have conducted in this thesis has brought us to the conclusion that meta-perceptions, perceptions of the outgroup, contact norms and the intergroup context are all factors that can impact intergroup contact engagement.

Evidence accounts for the role of self and group meta-perception in predicting intergroup contact engagement and for the perception of the outgroup to mediate this effect (Borinca et al., 2021; Fowler & Gasiorek, 2020; MacInnis & Hodson, 2012; Stathi et al., 2020). Evidence also accounts for the role of ingroup and outgroup contact norms in predicting said engagement (Cameron et al., 2011; Meleady, 2021; Turner et al., 2008). Further, the intergroup context, including the type of group (e.g., attitudinal vs racial groups), their status (e.g., advantaged vs disadvantaged) or the socio-cultural context surrounding them (e.g., laws, media), has been found to have an impact on intergroup contact effects and engagement.

Yet, as we have discussed previously, studies often fail to provide the bigger picture. Factors are often, if not always, studied separately or one at a time (Pettigrew & Hewstone, 2017). Additionally, research often overlooks the impact of the intergroup context. Further, research on intergroup contact is often limited to self-report measures and lacks experimental evidence. Finally, research on intergroup contact lacks an understanding of people's own definition and perception of the concept. Work by Keil and Koschate (2020) revealed that people's definition of intergroup contact differs from researchers' conceptions, but what about their conception of intergroup contact engagement?

Based on these observations, this thesis had four aims. First, provide insight into people's naive beliefs regarding factors impacting intergroup contact engagement. Second, testing the above mentions predictors within the Perception-norm model, which states that perceptions (i.e., self and group meta-perception $\rightarrow$ perception of the outgroup) influence intergroup contact engagement by informing one's perception of contact norms (ingroup and outgroup). Third, getting a better understanding of the role of the intergroup context in relation to those predictors by exploring two distinct contexts: a) political (i.e., based on attitudes and non-salient group membership); b) racial (i.e., salient group membership based on physical traits and with status inequalities). Four, we aim to provide experimental evidence of the role of these factors on both intentional and actual intergroup contact engagement.

Summary of empirical findings

Summary of part 2

Chapter 2 (i.e., Study 1) aimed to provide some understanding of individuals' beliefs regarding intergroup contact engagement. Studies on intergroup contact have evidenced the distance between lay people's and researchers' perception of intergroup contact (Brown & Hewstone, 2005; Keil & Koschate, 2020). Understanding people's beliefs regarding predictors of intergroup contact engagement is important to design effective interventions and break the gap between the lab and real life.

In Study 1, we build on this observation by asking participants to evaluate predictors (of intergroup contact) identified in the literature and their impact on fictional characters' behaviour. Results provide interesting insights into people's perceptions of intergroup contact engagement. Self-meta-perception and feelings of similarity were evaluated as the most important factors across situations and independently of individual differences (e.g., past contact experiences or attitudes). On the contrary, the perception of the outgroup was consistently perceived as the least important factor, an effect slightly dependent on past contact experiences (i.e., context). Further, despite a limited impact, situational (e.g., engagement in contact, forms of contact, type of interaction) and individual factors (e.g., past contact experience, attitudes) had an impact on factor type evaluation, supporting the idea of context-dependent effects of intergroup contact and its predictors. For instance, our results suggest that the groups concerned with the interaction (i.e., White British vs East Asian) influence the evaluation of intergroup contact engagement factors. Indeed, group meta-perception, perception of the outgroup and group status level of importance were influenced by the groups concerned. However, the general order of the factor was not affected.

Summary of part 3

In Chapters 3 and 4, we took a different approach by using correlational and experimental methods instead of relying solely on conscious perceptions of intergroup contact predictors. Based on the results of Study 1 and a critical review of the literature,

we proposed and tested the Perception-norm model that includes meta-perceptions, the perceptions of the outgroup, and contact norms factors influencing intergroup contact engagement in different intergroup contexts. Specifically, it hypothesized that self and group meta-perception predict intergroup contact engagement through perceptions of the outgroup and norms (ingroup and outgroup). We expected different effects of self vs group meta-perception and ingroup vs outgroup norms. While we expected self meta-perception to be a stronger predictor than group meta-perception, we had no clear expectations regarding norms and context. Further, we expected this effect to differ between and within intergroup contexts.

Summary of Chapter 3.

Studies 2, 3, and 4, which are presented in Chapter 3, tested this model by measuring different aspects of meta-perception, perception of the outgroup, and contact norms. Additionally, we controlled for the impact of individual differences in contact experiences, group identification, and political environment (Study 3). Finally, we measured participants' intention to interact with members of the opposite target group (e.g., Democrats vs. Republicans, Black vs. White). Study 2 examines this topic in the context of the 2020 U.S. presidential election prior to the election. Results from structural equation modelling reveal a positive indirect effect of self and group meta-perception on contact intention via the perception of the outgroup and contact norms for both Democrats and Republicans (positive meta-perception → positive perception of the outgroup → perception of higher normative support → increased intergroup contact intention). Further, we found ingroup norms mediate the relationship between group meta-perception and contact intention and a suppressor of the relationship between self meta-perception and said contact intention.

Study 3 focused on the same context after the election (i.e., a new environment with power change and reduced media focus on the two parties' relations) and partially replicated Study 2. Indeed, findings revealed a positive indirect effect of group meta-perception (i.e., mediation effect) and a negative indirect effect of self meta-perception (i.e., suppression effect)on contact intention via contact norms (ingroup and outgroup). Perception of the outgroup did not mediate the effect of meta-perception (self and group)

on contact intention. Finally, findings highlight the importance of the context as an indirect effect of meta-perception (self and group) disappeared when we controlled for the political environment (i.e., left vs right-wing news and social media, TV shows and companies) participants immerse themselves in.

Study 4 explores the role of perception among Blacks and Whites in the U.S. Results again partially replicate studies 2 and 3. Findings show positive indirect effects of self meta-perception (for Black people) and group meta-perception (for White people) on contact intention via the perception of the outgroup. As well as a positive indirect effect of group meta-perception on contact intention via ingroup contact norms for Black people and of self meta-perception on contact intention via outgroup contact norms for White people.

Altogether, using structural equation modelling, the three studies presented in Chapter 3 partially support our model and demonstrate that perception indirectly affects intergroup contact engagement and supports the role of contact norms (ingroup and outgroup) in the process. Our results add nuance to results from previous studies establishing the perception of the outgroup as a mediator of meta-perception effects by suggesting the importance of the intergroup context in this relationship. Further, they reinforce the idea of conceptualising self and group meta-perception as distinct, given their different role and relationship with various mediators. Finally, they support the importance of considering the context as differences were found between (i.e., political vs racial) and within (i.e., Black vs Whites) intergroup contexts.

Summary of Chapter 4.

Having provided initial support for the combined role of perception and norms in intergroup contact engagement and their dependence on the intergroup context using correlational data, it was important to provide experimental evidence supporting this effect. In Chapter 4, Studies 5a (i.e., political context) and 5b (i.e., racial context) build upon the results of previous chapters by testing the effect of manipulated meta-perception (i.e., tweet thread presenting a fake journal article about ingroup and outgroup perceptions) on actual intergroup contact. The study had four main objectives, which included exploring the impact of social media on perception, examining the effects of such manipulation on peo-

ple's actual engagement with outgroup members (beyond contact intention), investigating the role of meta-perception, perception of the outgroup, and contact norms in intergroup contact engagement, and conducting the Study in two different intergroup contexts: U.S. political context and U.S. racial context.

To achieve these objectives, we utilized a fake social media post to manipulate participants' perceptions with positive, negative, and control conditions. We then asked participants to choose between two ingroup and two outgroup partners for an interaction in which intergroup topics might arise. We expected the manipulation of perception valence to influence several measures, including lower levels of contact intention and actual contact, contact norms (ingroup and outgroup), higher levels of avoidance intention and negative meta-perception (self and group), and perception of the outgroup in the negative condition compared to the positive and control condition. We predicted that manipulating meta-perception and perception of the outgroup valence would impact contact engagement. Finally, we expected to see differences between (e.g., Racial vs political) and within (e.g., Black vs Whites) intergroup context.

Predicting intentional and actual contact. In Study 5a, actual contact was not directly predicted by our manipulation of perception valence or participants' group membership (i.e., identifying as a Democrat or a Republican), but perceptions, norms and intention predicted it. Specifically, more negative group meta-perception and perception of the outgroup as well as an increased feeling of similarity with the ingroup and decreased feeling of similarity with the outgroup and lower intergroup contact normative support from both groups and a higher level of avoidance intention lead to a reduced selection of an outgroup partner. Finally, increased contact intention was predicted by more positive perception of the outgroup, reduced feeling of similarity with the ingroup and less intention to avoid the outgroup. Higher desire to avoid the outgroup was however predicted by negative positive meta-perception (self and group) and perception of the outgroup along increased reduced feeling of similarity with the outgroup and reduced contact intention. In Study 5b (i.e., for participants identifying as either Black or White), on the other hand, actual contact engagement was predicted by our manipulation of perception valence, participants' group membership, and perception, norms and intention. Specifically, despite

a limited effect, outgroup partner choice was more highly associated with the negative than the control condition. Group membership was also associated with interaction choice, as outgroup partner choice was higher among White than Black participants. Further, more negative perceptions of the outgroup, along with decreased feelings of similarity with the outgroup and lower ingroup intergroup contact normative support and a higher level of avoidance intention, lead to a reduced selection of an outgroup partner. Finally, contact intention was predicted by more positive self meta-perception and perception of the outgroup as well as increased feeling of similarity and reduced intention to avoid the outgroup. The later was predicted only by more negative perception of the outgroup and reduced contact intention.

Influence of intergroup context. In both political and racial intergroup contexts, group membership influenced perception and intention, with differences based on group status. Black and Democrat participants had more negative perceptions (i.e., self and group meta-perceptions, perception of the outgroup) and feelings of similarity to the outgroup than White and Republican participants. Group membership also affected partner selection, with Whites selecting more outgroup partners than Blacks, while Democrats and Republicans both avoided outgroup partners equally to avoid conflict. Overall, avoidance of the outgroup was higher among Democrats and Republicans than among Black and Whites. Group membership and feelings of similarity with the ingroup or outgroup partner mainly dictated partner selection. Altogether this further demonstrates the influence of the context with an effect of group type and status on contact engagement.

Explanation of partner choice. The key factor influencing participants' choice of interaction partner was their group membership, which varied depending on the intergroup context. Although participants' choice of interaction partner in both contexts was influenced by their feelings of similarity or difference with the outgroup, including in terms of group membership, there was a difference in how they evaluated potential partners. In the racial context, participants also mentioned the partner's constructive point of view (e.g., a different perspective from the self) as a reason for their choice of partner. In the political context, participants tend to avoid said perspective as they are associated with conflict. Additionally, White participants tried to mask their fear of appearing prejudiced

by avoiding mentioning race as the reason for their avoidance and instead used age as a false pretext.

Altogether, our results support our hypothesis of the role of perceptions and norms in intergroup contact engagement, with more positive perceptions and norms predicting a higher engagement rate. Furthermore, it extends previous research by providing further evidence of the effect of perception on intentional and actual intergroup contact engagement. Finally, it provides evidence of how these factors work in two different intergroup contexts and demonstrates differences between and within intergroup contexts.

Implications

This thesis contributes to the literature by exploring key factors of intergroup contact engagement and providing a more nuanced yet broader view of the topic.

Leading contributors to the contact literature, Pettigrew and Hewstone (2017), have recently reflected on this body of work and argued that a so-called *single-factor fallacy* afflicts some intergroup contact studies. According to these authors, scholarship affected by the *single-factor fallacy* falls short of incorporating appropriately nuanced considerations of intergroup contact effects' complex multivariate and multilevel nature. Further, while multiple studies demonstrate the importance of intergroup context (e.g., group type, status, history or the socio-cultural context) in regard to intergroup contact, most studies fall short of providing the broader picture. Indeed, evidence is lacking regarding the influence of certain predictors in different intergroup contexts.

This thesis tried to overcome the afford mention limitations. Chapter 2 explored people's evaluation of contact engagement predictors. Chapter 3 and Chapter 4explore the combined effect of perceptions and norms on contact engagement in different intergroup contexts while controlling for ingroup identification and past contact experiences. To do so, we proposed the Perception-norm model whereby perceptions (i.e., self and group meta-perception $\rightarrow$ perception of the outgroup) predict contact engagement by informing one's perception of contact norms (ingroup and outgroup). Chapter 3 tested this model using structural equation modelling on self-reported measures. Chapter 4 experimentally tested the impact of perceptions on intentional and actual contact engagement. Both chapters

Table 35

Summary of empirical studies

Study	Groups	Data collection	Variables		Key findings
			Independent	Dependent	
Part 2 Chapter 2					

Study 1	White British (N=306) East Asian	SONA UK	Factors importance (score attributed to each factor)	• Factor type (11 factors)
				• Situation:
				  ○ Acceptance
				  ○ Forms of contact
				  ○ Interaction
				• Past contact experiences
					(1) Self meta-perception and perceived similarity are perceived as the most important factors, independently of the situation.
					(2) The situation as an impact on the perceived importance of the factor. However, self meta-perception and perceived similarity are almost always perceived as the most important factors, except when contact is rejected, in which case perceived difference and individual prejudice are the most important ones
					(3) Perception of the outgroup is always considered as the least important one and is dependent on past contact experiences. For example, past positive experience increases the perceived importance of perception of the outgroup.

Part 3 Chapter 3					

Study 2	Democrats (N=248) Republicans (N=207)	MTURK U.S.	**Main IV:**
			• Meta-perception:
			  ○ self
			  ○ group
			Mediator:
			• Perception of the outgroup
			• Contact norms:
			  ○ Ingroup
			  ○ Outgroup
				Main DV:
				• Contact intention
				Control variable:
				• Ingroup identification
				• Past contact experiences
				• (Political environment)
					(1) Invariance: no difference between Democrats and Republicans regarding how the model works.
					(2) Support our model. Meta-perception (self- and group) predicts contact intention via perception of the outgroup and ingroup or outgroup intergroup contact norms.
					(3) Ingroup and outgroup contact norms mediate the relation between self and group meta-perception (self and group) and intergroup contact intention.

Study 3	Democrats (N=264) Republicans (N=100)				(1) Invariance: no difference between Democrats and Republicans regarding how the model works. (2) Partially support our model with ingroup and outgroup contact norms mediating the relation between self and group meta-perception (self and group) and intergroup contact intention.

Study	Groups	Data collection	Variables		Key findings
			Independent	Dependent	
					(3) Perception of the outgroup does not mediate the relation between meta-perception (self and group) and contact intention. There was no serial mediation from meta-perception (self and group) to contact intention via perception of the outgroup and then contact norms. (4) Controlling for the political environment (i.e., immersion in left and right-wing environments), the indirect effect of meta-perception on contact intention via norms disappears. (5) Confirm the interest of looking at norms. Highlight the importance of considering context (e.g., change in power dynamics after the election, political environment).
Study 4	Blacks (N=208) Whites (N=227)	PROLIFIC USA			(1) Absence of model invariance: participants' baseline answers are different. Exploration of the model for each group individually. (2) Partial support for our model with meta-perception predicting contact engagement via perception of the outgroup. (3) Differences between groups: self meta-perception matters for Whites participants, while group meta-perception matters for Blacks participants. Additionally, limited role of norms, with ingroup norms mediating the effect of meta-perception on contact engagement for Black participants and outgroup norms for (4) Support the importance of considering the context as we observed differences between two groups with different statuses (i.e. Black vs White in the U.S.). (5) Support the relation between meta-perception and perception of the outgroup and the mediation role of the latter.
Chapter 4					
Study 5a	Democrats (N=110)	PROLIFIC U.S.	**Main IVs :**	**Main DVs:**	(1) Democrats have more negative self meta-perception and perception of the outgroup than Republicans. They also

Study	Groups	Data collection	Variables		Key findings
			Independent	Dependent	

	Republicans (N=107)		• Conditions (i.e., control, positive, negative)
			• Group membership
			  ○ Democrats
			  ○ Republicans
			
			Additional IV:
			• Meta-perception:
			  ○ self
			  ○ group
			• Perception of the outgroup
			• Contact norms:
			  ○ Ingroup
			  ○ Outgroup
			• Similarity:
			  ○ Ingroup
			  ○ Outgroup
			• Contact and avoidance intention
			• Contact engagement reason
				• Actual contact engagement (i.e., partner choice)
				• Contact and avoidance intention
				
				Additional DVs:
				• See additional IVs list
					found themselves less similar to Republicans than the opposite. And consider their groups less supportive of intergroup contact. Unsurprisingly, they also have a higher level of contact avoidance intention.
					(2) There was a main effect of condition for self meta-perception, perception of the outgroup and ingroup and outgroup norms. More precisely, meta-perception and perception of the outgroup were more negative in the negative than the positive condition. Ingroup and outgroup normative support were perceived as higher in the positive than the negative and control condition.
					(3) Partner choice was not predicted by group membership and condition. However, it was predicted by perception, norms and intention. More precisely, more negative group meta-perception and perception of the outgroup, along increase feeling of similarity with the ingroup and decreased feeling of similarity with the outgroup and lower intergroup contact normative support from both groups as well as a higher level of intergroup contact avoidance intention lead reduced selection of an outgroup partner.
					(4) When exploring participants' explanations regarding their choice of partner, we found that overall, group membership was the main reason followed by contact experience (i.e. Mainly conflict avoidance) for both groups.

Study 5b	Blacks (N=103) Whites (N=117)		**Main IVs :** • Conditions (i.e., control, positive, negative) • Group membership ○ Black	**Main DVs:** • Actual contact engagement (i.e., partner choice) • Contact and avoidance intention	(1) Black participants had more negative self and group meta-perception and perception of the outgroup than White. Additionally, they considered themselves less similar to White and their group, as well as White people were less supportive of intergroup contact than White participants. Finally, they reported less contact

Study	Groups	Data collection	Variables		Key findings
			Independent	**Dependent**	
			○ White **Additional IV:** • Meta-perception: ○ self ○ group • Perception of the outgroup • Contact norms: ○ Ingroup ○ Outgroup • Similarity: ○ Ingroup ○ Outgroup • Contact and avoidance intention Contact engagement reason	**Additional DVs:** See additional IVs list	engagement intention and higher contact avoidance intention. (2) Self meta-perception was more negative in the negative than positive condition. Additionally, higher ingroup and outgroup normative support was perceived in the positive condition in comparison to the two other conditions. Finally, intergroup contact intention was lower in the negative than in the control condition. (3) Finally, partner choice was predicted by group membership and condition. Indeed, outgroup partner choice was more highly associated with the negative than the control condition. And group membership was also associated with interaction choice. Outgroup partner choice was higher among White than Black participants. (4) Additionally, it was predicted by perception, norms and intention. More precisely, a more negative perception of the outgroup, along with decreased feeling of similarity with the outgroup and lower ingroup intergroup contact normative support and a higher level of intergroup contact avoidance intention, lead to reduced selection of an outgroup partner. (5) Overall, group membership is one of the main reasons followed by similarity. However, in the case of White participants, Age appears as the main reason for avoiding the outgroup. As profiles of similar age were proposed for both groups, this revealed participants' desire to avoid being seen as prejudiced.

explored these predictors in two intergroup contexts: 1) political (i.e., pre-presidential election in Study 2; post-presidential election in studies 3 and 5a); 2) racial (i.e., studies 4 and 5b). The following part discusses the theoretical and practical implications of the present work, including support for our model, the specific role of meta-perception, perception of the outgroup, contact norms, and context.

Theoretical implications

Support for our model.

Our critical evaluation of the literature revealed that meta-perception (self and group), perception of the outgroup and norms play a role in intergroup contact engagement. Yet, studies failed to provide the broader picture resulting in a lack of evidence of the interplay of these factors and the impact of various intergroup contexts on said factors. We thus took a step further and proposed the Perception-norm model, which hypothesizes that meta-perception (self and group) will predict intergroup contact engagement by influencing, first, the perception of the outgroup and then contact norms (ingroup and outgroup), an effect dependent of the intergroup context. Results from four studies provide partial support for this model. In Study 2 (see Chapter 3), we found a positive indirect effect of meta-perception (self and group) on contact intention via the perception of the outgroup and ingroup (i.e., all) or outgroup (i.e., except for group meta-perception) contact norms for Democrats and Republicans. Further, we also found significant indirect effects of self and group meta-perception via ingroup norms only. Results from Study 3 (see Chapter 3) provide partial support for our model. Indeed, we found a positive indirect effect of group meta-perception and a negative effect of self meta-perception on contact intention via ingroup contact norms but no mediation effect of perception of the outgroup. Further, this effect disappeared when controlling for the effect of the political environment. Study 4 (see Chapter 3) revealed that the indirect effect of meta-perception (self and group) on contact intention via either perception of the outgroup only or contact norms (ingroup and outgroup) only was dependent on participants' group membership (i.e., Black or White). Finally, results of studies 5a and 5b highlight the role of meta-perception (self and group), perception of the outgroup and contact norms (ingroup and outgroup) as predictors of

both actual and intentional intergroup contact engagement.

Altogether, our results provide evidence to support our Perception-norm model. The following section breaks up the model and discusses the theoretical implications of its different parts, including the role of perception (e.g., mediation role of perception of the outgroup, distinction of self and group meta-perception), the role of norms (e.g., distinctions of ingroup and outgroup norms, the relationship between contact norms and perceptions), the importance of intergroup context (e.g., group type and differences *between* intergroup context, group status and differences *within* an intergroup context, the role of the socio-cultural context).

The role of perception.

This thesis provides further evidence of the role of meta-perception in intergroup contact engagement in three different ways. First, when exploring people's reported beliefs regarding factors predicting intergroup contact engagement, we found that (self) meta-perception was consistently considered as one of the most important factors. Second, using structural equation modelling on self-reported data, we demonstrate that self and group meta-perception, directly and indirectly, predicts intergroup contact engagement in two different intergroup contexts. Third, a mix of self-reported and experimental data supports the role of meta-perception in predicting actual and intentional intergroup contact engagement. This pattern of results is consistent with previous results showing that positive meta-perceptions (e.g., meta-humanisation; or allyship, responsible or inactive meta-beliefs) increase contact intention, acceptance of outgroup help or engagement in collective actions (Adra et al., 2020; Borinca et al., 2021).

Self vs group meta-perception. Our results also extend previous research by highlighting the distinct role of self and group meta-perception. Our critical review of the literature led us to the conclusion that, while the effect of group meta-perception had been the most investigated, self meta-perception might be a stronger predictor of intergroup contact engagement (Fowler & Gasiorek, 2020; MacInnis & Hodson, 2012). Our findings suggest that the effects of both factors are likely to depend on the intergroup context. Evidence from two studies highlighted that for people of certain groups (e.g.,

White), self meta-perception matters more. In contrast, group meta-perception is the main factor for people of other groups (e.g., Black). This effect likely depends on the type of group and group status (e.g., majority or advantage and minority or disadvantage) and the relationship between each individual and their group (i.e., identification to the ingroup). According to Frey and Tropp (2006), the difference between self and group meta-perception resides in the salience of the group membership. In other words, if group membership is salient, people will consider group meta-perception. If it is not salient, they will focus on self meta-perception. We argue that this might vary as a function of the intergroup context (e.g., different degrees of salience depending on one's group status or change in the mediatic context). The specific effect of the intergroup context we have considered and a possible explanation of differences between Black and White people will be discussed below in the section on The role of the intergroup context.

Perception of the outgroup as a mediator. Finally, this thesis' findings offer nuanced support to the claim that perception of the outgroup not only predicts intergroup contact engagement but also mediates the effect of meta-perceptions. Previous studies have demonstrated that perception of the outgroup or dehumanisation mediated the role of meta-perception (or meta-dehumanisation) on multiple behaviours (e.g., outgroup aggression behaviour, Kteily & Hodson, 2016; support for foreign policies and openness for diplomacy in multiple intergroup contexts, O'Brien et al., 2018). In line with the literature, in studies 2 and 4, perception of the outgroup was found to mediate the relation between meta-perception and contact norms (Study 2) or contact intention (Study 4). Further, studies 5a (i.e., political context) and 5b (i.e., racial context) demonstrate that perception of the outgroup (self-reported and experimentally manipulated) predicts actual and intentional intergroup contact engagement. However, these results are nuanced as the indirect effect of meta-perception in Study 2 was very weak, and no direct effect of perception of the outgroup on contact intention was found. Additionally, no mediation effect of perception of the outgroup was found in Study 3, and people attribute it a limited importance (Study 1).

An explanation for this last finding (i.e., people's low evaluation of the perception of the outgroup) is that it was affected by social desirability (i.e., people want to avoid

appearing judgmental). However, this was partially prevented by participants evaluating the behaviour of fictional characters rather than their own. Further, similar patterns would have appeared for the prejudice factors if it were the case. A second explanation is that people evaluate first-order mechanisms (e.g., meta-perception) as important and disregard the importance of perception of the outgroup due to its mediating effect. Its effects being indirect, people failed to consider its importance.

Finally, we believe the intergroup context can explain the inconsistencies with previous studies concerning the effect of perception of the outgroup in general and its mediation role in the relationship between meta-perception and intergroup contact. Indeed, we observe differences between our two intergroup contexts and within one context depending on group status (e.g., self meta-perception predicts perception of the outgroup for White, but not Black, people) and change in the mediatic environment (i.e., broader socio-cultural context). The specific impact of intergroup context in our studies will be further discussed below in the section on The role of the intergroup context.

Altogether, across five studies using various methods (e.g., using SEM, experimental method and people's conscious evaluations), we demonstrate the role of meta-perception in predicting intergroup contact engagement. Further, we highlight the importance of distinguishing self and group meta-perceptions to understand the role of this process in intergroup contact engagement and argue their effects depend on the intergroup context. Finally, we provided nuanced evidence of the role of the perception of the outgroup as a mediator of meta-perception effects on intergroup contact engagement and argued that it is context-dependent.

The role of norms.

The relationship between perception, norms and contact intention. This thesis offers the first direct evidence of the combined influence of perception and contact norms on intergroup contact engagement. Our results support Vauclair et al. (2016) claim that meta-perceptions inform the normative context. More precisely, we found that, in the political context, group meta-perception's effect on contact engagement was mediated by people's perception of (ingroup) contact norms. In other words, positive

meta-perception increased contact intention by informing people's perception of norms. We also found that outgroup contact norms mediate the relationship between self meta-perception and contact intention for White people. In spite of this, we also found evidence suggesting that (ingroup) contact norms suppressed the effect of self meta-perception on contact intention in the political context and of group meta-perception, for Black people, in the racial context.

More precisely, these results suggest that positive group meta-perception in the political context leads to higher contact intention by increasing the perception of normative support in favour of contact. However, in the same intergroup context, positive self meta-perception reduces contact intention via reduced perceptions of normative support for intergroup contact. We have no clear idea as to why this might be the case. One possible explanation is that in the case of self meta-perception, Democrats and Republicans considered views held by out-party members about them as individuals (as political affiliation is not always obvious or salient) rather than them as political party members, creating a distinction from the ingroup that would ultimately reverse the effect of contact norms in this instance. Altogether, while the recurrence of the effect in studies 2 and 3 suggests this effect might be more than a type I error (Mackinnon et al., 2000), more evidence is needed to draw any conclusion and understand this effect.

Finally, in the racial context, ingroup contact norms counteract the negative influence of positive group meta-perceptions held by Black people on contact intention (i.e., negative group meta-perception predicts higher intention to engage in intergroup contact via the perception of higher ingroup normative support). In this case, the suppressor (i.e., ingroup contact norm) is advantageous due to the negative effect of group meta-perception. The reason behind meta-perception being negative in this instance will be discussed below in the section on The role of the intergroup context.

The distinct effects of ingroup and outgroup norms. Our results also extend previous studies highlighting the distinct role of ingroup and outgroup norms. Previous studies have demonstrated that ingroup and outgroup norms might have distinct effects. For instance, some studies found that ingroup (but not) outgroup norms influence attitudes (Vezzali et al., 2019). However, results are mixed as other studies found both

ingroup and outgroup norms to influence attitudes (Turner et al., 2008). In addition, some studies suggest that outgroup norms might be a stronger mediator of the relationship between extended contact and contact intention (Cameron et al., 2011).

This thesis contributes to this body of research. It provides further evidence that ingroup and outgroup norms are both predictors of contact engagement but also have distinct effects and suggests that this might depend on the intergroup context. Indeed, in Study 4, ingroup contact norms influenced the effect of meta-perception for Black people, while for White people, it was outgroup contact norms. Further, in Study 2, ingroup (but not outgroup) contact norms influenced the relationship between (self and group) meta-perception and contact intention. We argue that, like for the effect of self vs meta-perception, these differences in the effect of ingroup and outgroup contact norms (especially in Study 4) are likely due to differences in group membership (i.e., status and identification). Finally, studies 5a and 5b found that only ingroup contact norms predicted actual intergroup contact engagement, but none predicted contact intention.

Altogether, these results extend the literature on the role of norms in intergroup contact engagement by providing further evidence of the effect of norms but also by providing new evidence of its relation to meta-perception and perception of the outgroup and further highlighting the need to distinguish and consider both ingroup and outgroup norms effect.

The role of the intergroup context.

This thesis goes beyond providing new evidence regarding some predictors of intergroup contact. It highlights the importance of considering the intergroup context when exploring said factors. The idea that predictors of intergroup contact are generic rather than context-dependent has dominated the intergroup contact literature. This approach assumes that "... many basic factors that determine the success or failure of intergroup contact are essentially the same across times and places, provided that the processes are conceptualised at an appropriate level of abstraction." (Brewer & Miller, 1984, p.2). Yet, people's affiliation to various social categories, their emotional significance and their values are an important part of their identity (i.e., Social Identity Theory, Brewer & Miller, 1984;

Tajfel, 1972, 1974). So the connections between individuals and their social environment cannot be ignored.

We define the intergroup context as the social environment surrounding a specific intergroup interaction and consider that it will variate based on the groups and individuals involved. More precisely, we consider that the intergroup context will differ depending on the type of group concerned, their relative status, the history between said groups and the cultural, legal and mediatic environment surrounding them. If a full accounting of contextual positions between groups or of individuals group membership is beyond the scope of any individual piece of research, we chose here to focus on the comparison of two intergroup contexts made distinct by the groups concerned, their characteristics, status and power relation as well as their history. Further, we decided to control for participants' identification with the ingroup and personal past contact experiences with the outgroup targeted as they are direct individual experiences of said intergroup context.

The types of groups. This thesis contributes to the literature by providing new evidence of how predictors of intergroup contact are affected by the intergroup context and the characteristics of the group concerned (e.g., membership type). It extends previous studies demonstrating that groups with different characteristics (e.g., based on race vs sexual orientation) produce different reactions (e.g., anger vs disgust) in response to the different threats they pose (Cottrell & Neuberg, 2005; Seger et al., 2017).

Indeed, in five studies, three correlational and two experimental, we found different effects of meta-perception, perception of the outgroup and norms on actual and intentional contact engagement in the political and racial context. In the political context, we found limited to no evidence of the mediating role of the perception of the outgroup. In the racial context, however, we found evidence suggesting that perception of the outgroup mediates the relationship between meta-perception and contact intention. In studies 2 and 3, we also found evidence of the suppressor role of ingroup norms, which appears to impair the effect of self meta-perception on contact intention. However, in the racial context, we found no such effect. On the contrary, in the case of Black people, it appears that ingroup norms reverse the negative effect of group meta-perception on contact intention. In studies 5a and 5b, we found that group status and perceptions' manipulation predicted actual contact

engagement in the racial but not the political context. On the contrary, group meta-perception and feeling of similarity to the ingroup predicted actual contact engagement in the political but not the racial intergroup context, showing that predictors of intergroup contact engagement depend on the intergroup context and the group concerned.

We argue that these variations are partly due to the two contexts' differences. In the political context, group membership is based on attitudes. One's affiliation to a specific political party depends on their values and opinion and can often lead to strong ingroup identification (Westwood et al., 2018). In the racial context, however, group membership is a social construct based on physical traits, is imposed, and degrees of ingroup identification depends on the group one belongs to (Barroso, 2020). In addition, in both contexts, the outgroup targeted presents different types of threats, such as treat to the political power and values between the two political groups and threats to the property, freedom and rights for the two racial groups (Alston, 2022; Cottrell & Neuberg, 2005; Rios Morrison & Ybarra, 2009).

These different types of threats can influence behaviours and underlying mechanisms of intergroup contact engagement (e.g., emotion). Here, we believe that depending on the type of threat the outgroup poses, meta-perception, perception of the outgroup, and contact norms will be more or less relevant. Further, we argue that the content of said perceptions and norms might be more or less relevant depending on said threats. For instance, we can imagine that meta-perception of morality (e.g., the outgroup perceives me as moral) might be less relevant regarding groups that threaten their value (i.e., their sense of morality is different and wrong, so less important). Similarly, if considering interaction with a member of a group that threatens their personal freedom and rights, we can imagine that one's ingroup normative support for diversity and equity might be more relevant than friendship and comfort.

Altogether, we believe those results open an interesting discussion on the importance of considering the type of group concerned and the threat they might pose. Future studies should explore in more detail the influence of different types of meta-perception, perceptions of the outgroup, and norms for various groups posing distinct threats.

Finally, in most cases, results in the political context were homogeneous, with little

to no difference between Democrats and Republicans. In contrast, in the racial context, results were more heterogeneous, with differences between Blacks and Whites. This is illustrative of the differences between the two intergroup contexts. While this finding provides further evidence of the difference between the two contexts, it also opens the question of differences within one context, especially between groups of different statuses and with a strong history of inequalities.

The groups status and history. Our findings also extend studies on the role of status in intergroup contact (Putra & Wagner, 2017; Saguy et al., 2008). Those studies demonstrated that groups of different statuses (and relative power) have different expectations and experiences of contact (Ron et al., 2017). Evidence accounts for the relationship between commonalities-focused interactions (privilege by majority or advantaged group members to appear as moral) and reduced support for action for social change like the Black Lives Matters movement in the United States (Saguy et al., 2008) or increased legitimacy perceptions of hierarchical relations (Saguy & Chernyak-Hai, 2012).

Going further, when proposing the Integrated Contact-Collective Action Model (ICCAM), Hässler et al. (2020a) differentiate advantaged and disadvantaged group experience (i.e., different predictors) but also argue that the same predictor can act differently as a function of group status and dependent group-based needs. Indeed, the ICCAM highlights factors, such as ideology (e.g., RWA/SDO) or focuses on dual identity, as influencing the engagement in the collective action of respectively the majority and the minority. The ICCAM argues that ideologies such as social dominance orientation and right-wing authoritarianism would reduce the positive effect of intergroup contact on support for social change of majority group members and may even increase support for reactionary action in order to preserve the established hierarchy. For minority group members, however, Hässler et al. (2020b) argue that focusing on both their and a supra-ordinate category will create a positive link between positive contact and support for social change by highlighting inequalities. But the ICCAM also demonstrates that factors such as perceived illegitimacy of group differences can predict the effect of positive contact on support for social change for both groups. Perception of greater illegitimacy of said differences will reinforce the positive effect of positive contact on collective action for minorities while reducing the

negative effect it can have on minority group members (i.e., disengagement).

In two studies, we found that Democrats (vs Republicans) and Black (vs White) experiences related to intergroup relations (e.g., meta-perception, perception of the outgroup, contact norms, avoidance or contact intention) were overall more negative than their relative outgroup. For Black people (vs Whites), this is consistent with the history between the groups, including systemic inequalities and racism (e.g., about being seen as incompetent – stereotype threat, Bailey et al., 2021; Spencer et al., 2016). Regarding Democrats (vs Republicans), it is less clear why there might be such inequality in perception. It is possible that this is a result of the change in power and the contest over the Presidential election results, with Democrats potentially feeling targeted by Republicans as a reaction to the politics in place. Alternatively, it could be that Democrats and Republicans give different meanings or degrees of importance to those predictors or their content. For instance, a study found that Democrats and Republicans gave importance to different types of morals. Democrats liked people with individualising morals more, while for Republicans it was people with binding morals.

Additionally, in three studies, we found that predictors of intergroup contact engagement (intentional and actual) differ based on group status. Indeed, in Study 4, contact intention was indirectly predicted by self meta-perception for White people and by group meta-perception for Black people. Further, ingroup contact norms influenced this effect for Black people, while for White people, it was influenced by outgroup contact norms. Finally, actual contact engagement was generally higher among Whites than Blacks. In other words, Black people chose to avoid White people more than the reverse, and how they believed their ingroup was perceived mattered more than how they believed to be seen as individuals. For White people, however, how they were seen personally was more important than how they thought Black people saw White people in general. We argue that this can result from Black and White people's distinct everyday experiences and ingroup identification.

Race is a social construct based on arbitrary characteristics such as physical traits (e.g., skin colour) without scientific or biological meaning (Flanagin et al., 2021a). While race is attributed to similar criteria for every group, not every group's experience is equal.

With societies built with White as the 'norm', White people are not used to considering themselves in terms of being White (i.e., only 15 % of White people indicate their race to be a central part of their identity, Barroso, 2020). And, while recent studies reveal that although a part of the White community identifies with their racial group and is motivated to maintain White advantaged status in society (Corrington et al., 2023), even feeling a sense of solidarity, this is not the case of the majority and this strong ingroup identification is often associated with extremism and White supremacist views. For instance, news of events such as All Lives Matter or messages such as "It's ok to be White" have appeared in recent years. Yet, these messages and movements are an illustration of this minority of White people's perception that their group is being targetted and are indicators of implicit racism and ideological stances that perpetuate racism (West et al., 2021). However, most White people do not strongly identify with their race. Still, because of their advantaged position in society, they enjoy the privilege of overlooking the role of race and racial prejudice. Americans default to White at an implicit level. Studies found that White people think less often of race, illustrating the privilege of White people to consider their race as "transparent". Many studies are illustrative of this concept as White identity is often conceptualised as outgroup attitudes (e.g., prejudice) rather than ingroup identification supporting the idea that "just as fish do not see water, Whites do not [need to] see race" (Corrington et al., 2023).

For Black people, the story is different. Daily news articles highlight the prevalence of prejudice and discrimination towards Black people. Studies report that the arrest rate depends on the skin tone of the individual, with individuals with darker skin tones individuals being more at risk of being arrested (White, 2014). Similarly, another study showed that Black customers received more negative treatment in majorly White neighbourhoods than majorly Black neighbourhoods (Lee, 2000). While we could go on, we believe these examples are enough to illustrate how race affects every aspect of Black people's lives. Unlike White people, Black people cannot overlook their membership in a racial group. But their identity is not simply influencing people's behaviours toward them. It is also a part of their personal identity. Indeed, most Black adults indicate their race as a central part of their identity (74%) and to feel a great sense of community (Barroso, 2020).

The difference between group identification and group consciousness might explain these differences in experience and identification. Group consciousness is similar to group identification with the exception of the addition of the concept of ideologies. Race consciousness is "a collective sentiment in which race becomes the object of loyalty and idealization.... Race consciousness is essentially a characteristic of minority groups, more specifically, of oppressed minority groups, and takes the form of a feeling of solidarity among group members". Consciousness furthers the group identity by making it part of the personal identity and pushing its members to work to improve the group's characteristics. (McClain et al., 2009).

In other words, for most White people, the question of race can be easily avoided and is (in terms of their own group) not part of their ideology or fight. For Black people, their racial identity is stronger or more anchored in their personal selves. This difference in the salience of the group membership and its importance for one's self-concept might explain why self meta-perception is more important for White participants (i.e., absence of group membership salience, dissociation from the ingroup), how they are perceived as an individual matters more than how Black people perceive White people in general. For Black people, however, with group membership being a central part of their identity and influencing every aspect of their life, contact engagement is more strongly predicted by what they think Whites think of Blacks (i.e., positive vs prejudicial views) than by how they think they are perceived themselves.

The socio-cultural context. Finally, our results support the influence of the cultural, legal and mediatic environment. Previous studies have shown that intense media coverage (Carew et al., 2019), political discourse (Crandall et al., 2018) or legislation change (Green et al., 2020) can influence intergroup contact and attitudes. We extend these results by providing evidence that changes in the social, legal and mediatic environment influence predictors of intergroup contact. Indeed, while in Study 2, perception of the outgroup was found to mediate the relationship between meta-perception and norms, this effect was absent in Study 3. Interestingly, Study 2 data were collected the month before the 2020 U.S. presidential election, while Study 3 data were collected a few months after the election. Election time creates a specific context where individuals are surrounded by

political information (e.g., political advert on every channel), making partisan membership particularly salient, overall increasing outgroup threat (e.g., the heightened threat to the power held by the group) and polarization (Iyengar et al., 2019). However, in Study 3, a few months had passed since the election. One can suppose that even following January 6th, the media representation and the general population focus on the distinction between both groups appear to be less salient outside of the election period (e.g., people don't follow the news with the same intensity). Further, the power relation between both groups shifted with Democrats winning the election. Such major changes in the two groups' socio-cultural environment can have influenced the results. The change in the mediatic environment, by making the perception of both groups less salient, might have reduced the importance given to their perception of the outgroup.

Some of our additional results further support this. Indeed, when we controlled for the political environment (i.e., media and business), participants immersed themselves in, the effect of meta-perception and norms disappeared, providing further evidence of the influence of the socio-economic context, as it suggests that media habits can better explain meta-perception's effect on contact intention than meta-perception in the political context. This is coherent with studies demonstrating the influence of media on (engagement in) intergroup contact (Carew et al., 2019; Mazziotta et al., 2011) and polls revealing that partisans receive news in a media bubble (Jurkowitz & Mitchell, 2020) where sources align with their political views. Our results suggest that this broader socio-cultural context might influence contact engagement. However, we cannot tell if this effect is due to said socio-cultural context informing (i.e., as a moderator or mediator) meta-perception, perception of the outgroup, and contact norms or if it goes beyond their effect and is an independent predictor of contact engagement. Further studies should directly test the potential moderation effects of the political environment.

Altogether, these results provide evidence that predictors of intergroup contact engagement are context dependent. They are influenced by the group membership of the individuals involved in the interaction, the status provided by the group membership, and the socio-cultural context surrounding them. As we have seen, predictors of contact engagement (i.e., meta-perception, perception of the outgroup and contact norms) apply

differently for political and racial groups. Similarly, different predictors are relevant for Black and White people, revealing differences within one intergroup context. Finally, evidence suggested that the broader socio-cultural context influences contact engagement too. These results present interesting theoretical evidence but can also have practical implications, such as informing the design of an intervention to promote positive intergroup contact engagement.

Practical implications

While the present work is largely theoretical in nature, it can also provide practical insight. This thesis has two main practical implications: 1) informing policies and interventions; 2) informing research methods in relation to perception and intergroup contact engagement.

Informing policies and interventions.

From a practical point of view, positive intergroup contact can help reduce prejudice or promote engagement in collective action. It is a key element in improving intergroup relations in diverse societies. Yet, people often do not engage in intergroup contact and sometimes even avoid it purposefully. Understanding how, when and why people engage in intergroup contact is an urgent challenge. Results from research investigating this issue have both theoretical and practical implications by improving our knowledge of the topic and informing interventions and policies. Indeed, policymakers have historically looked to social science for guidance about issues such as prejudice reduction, reducing informal segregation, etc. (Myrdal, 1944 in Paolini et al., 2018). This thesis is relevant to the work of practitioners and policymakers who seek to promote positive intergroup relations as it provides useful insight into the role of perception, norms and context in intergroup contact engagement. In three correlational and two experimental studies, we show that meta-perception can influence intergroup contact by informing the perception of the outgroup and of the normative context. We provide evidence on how the effect of manipulated meta-perception influences actual intergroup contact engagement. Altogether, these findings can influence policies aiming to promote intergroup interactions.

The main contribution of the present work concerns the evidence it provides regarding the necessity to create interventions and policies on a contextual basis. Indeed, predictors of intergroup contact engagement were found to vary depending on the group concerned, their relative status and the general context surrounding them. Altogether, these results suggest we can overcome the negative bias of meta-accuracy. Indeed, studies have shown that people tend to overestimate the negative valence of meta-perception. In other words, people tend to think others see them or their group more negatively than how they are really perceived (Lees & Cikara, 2020; Lees, 2021). By using media as a means of communication and rectification, we can create context-based interventions aiming to encourage accurate or positive perceptions between two groups to improve the relationship between said groups. For instance, one can imagine interventions providing information about groups' perceptions of each other, providing a more nuanced or positive vision of the relationship between the two groups (i.e., similar to the method used in studies 5a and 5b). But these interventions need to be targeted to specific groups. In other words, an intervention design for political vs racial vs other groups will focus on different meta-perceptions (e.g., different dimensions, different levels: self vs group, etc.). For instance, an intervention targeting White people might focus on how they think the outgroup might see them personally (i.e., self meta-perception). In contrast, it will be more effective for Black people or political groups to focus on how their group is perceived (i.e., group meta-perception).

Methodological contributions.

Self-reported measures, due to the multiple advantages it offers (e.g., time and budget economy), have been the go-to method in the intergroup contact literature (81%, Hewstone et al., n.d.; Pettigrew & Tropp, 2008), and studies on intergroup contact engagement are no exception to the rule. Yet other techniques exist. O'Donnell et al. (2021) provides an extensive review of some of these methods, including 'intensive repeated measures' (e.g., Daily diary, GPS tracking), virtual reality, and analysis of press-based information. In addition to these advanced techniques, some scholars have designed studies in which, after the manipulation of some factors (e.g., meta-perception, MacInnis & Hodson, 2012; norms, Meleady, 2021) participants were provided with a contact opportunity. Using a sim-

ilar design in Study 5, we provide new evidence regarding predictors of intergroup contact engagement. It also offers additional support for using similar methods due to differences between intentional and actual contact engagement (MacInnis & Hodson, 2012).

Further, we provide new evidence regarding the manipulation of meta-perception and perception of the outgroup. Two main methods exist 1) using an article providing information on said perceptions (e.g., Kteily & Hodson, 2016; Landry et al., 2021); 2) asking participants to list perceptions they might have (e.g., Fowler & Gasiorek, 2020). We provide further evidence supporting the method as well as an update. Indeed, while most studies presented the perception as a news article, we used fake tweet threads to manipulate meta-perception and perception of the outgroup. These findings should thus provide new knowledge on the way of manipulating meta-perception and perception of the outgroup in *naturalistic* ways.

Finally, the first study presented in this thesis provides some interesting insights into people's ability to reflect on intergroup contact engagement consciously. As we have mentioned multiple times, work from Keil and Koschate (2020) has highlighted the difference between laypeople's and scholars' definitions of contact. Our Study brings to attention the difference between some predictors' strengths and how people think it might affect their behaviour. One can argue that by being more conscious about our own behaviour, we can limit the effect some predictors can have on it. For instance, knowing about the influence of unconscious prejudice can allow us to reflect and change our behaviour and reduce the negative effect of prejudice. It is thus important to understand what people think influences their behaviour to be able to start a conversation on how to reduce the detrimental effect of some of those predictors.

Despite some limitations (e.g., time, money, tweet thread presented outside the Twitter platform), this thesis thus offers practical methodological evidence to inform the design of new studies. Specifically, it provides useful information regarding the test of actual intergroup contact engagement online and the manipulation of perception using fake social media stimuli.

Limits and future direction

Notwithstanding the contributions of this research, we acknowledge several limitations which should be addressed in future research.

Social context

Multiple times across this thesis, we have demonstrated that intergroup contact engagement predictors depend on the intergroup and social context surrounding said interaction. While we believe our results still provide an interesting insight into the role of perception and norms on intergroup contact, we must acknowledge one limit of the present work: the unknown impact that events happening at the time of our data collection might have had. While social context is out of our control, we believe it is important to acknowledge the influence it might have had. Any event or study happens at a given time, and below is a discussion of said times and the possible influence they might have had on our work. We believe it should open a discussion on how to acknowledge better and measure the role of the broader socio-cultural context on elements such as perceptions, norms and contact engagement.

Political and social uprising.

One said type of event is the political and social uprising and protests that occurred in 2020 and 2021 in the U.S.

Racial context in the U.S. during data collection. Tensions between Black and White people in the U.S. was everywhere on the news at the time of our data collection. While unfortunately not the first nor last one, the murder of George Floyd during his arrest by a police officer in Minneapolis in May 2020 triggered a new wave of protest in the U.S. and worldwide. The importance of these protests brought back the Black Live Matter movement, created in 2013, to the headlines and opened discussion regarding systemic racism in the U.S. But 'All lives matter' movements and protests impede this protest and discussion. Evidence demonstrates that "preference for All Lives Matter over Black Lives Matter indicates both implicit racism and ideological stances that minimize or

discourage the recognition of contemporary forms of racial discrimination [... And] thereby (ironically) perpetuate racism" (West et al., 2021). The tension between the two groups was not only consistent in the headlines about the protests but also overtook other aspects of life. For instance, players from the NHL refused to play games in support of the protest (Gretz, 2020). On a much darker note, residents of Huntigton Beach found Ku Klux Klan fliers on their doorstep (Smith et al., 2021).

Political context in the U.S. during data collection. On the political side, our data are embedded in the rising tension between Democrats and Republicans that happened over the last few years. At the time of our data collection (2020 -2021), multiple political events happened that need to be taken into consideration. The first one is the election of Joe Biden as President of the United States. This played a role in the relations between Democrats and Republicans in multiple ways, highlighting further the necessity to consider the intergroup context and be careful about generalising predictors and processes. First, Biden's first measures took a strong turn away from Trump's as he returned the U.S. to the Paris Climate Agreement and the Word Health Organisation, among other things (Lindsay, 2021). Further, his presidential election was the starting point of multiple protests from both sides (i.e., either for or against it), including the event at the Capitol on January 6th 2021 ("Capitol riots timeline: What happened on 6 January 2021?", 2022) which appeared to be an attempt to overturn the election results, based on conspiracies fueled by Trump himself. Ramifications of this event were surely salient when our second wave of data collection occurred. Finally, Trump's impeachment trial for power abuse and obstruction of Congress also made the news at the time (Lindsay, 2020). Altogether, these events created a peculiar intergroup context that data collected before and after the change allow us to understand partially.

The pandemic. Another major event happening at the time was the COVID-19 Pandemic. All our data were collected during the period of 2020-2021, during which, following the breakout of COVID-19 from China, multiple social restrictions were put in place. In the U.S., where most of our data were collected, stay-at-home orders impacted an estimated 316 million people over 42 states (Mervosh et al., 2020) from March to June 2020. Beyond this, social distancing, including restriction of group size (e.g., interdiction

of large gatherings), the 6-feet distance between individuals or the closure of many social places (e.g., bars, clubs, etc.) and travel bans have affected the lives of millions of people. Albeit direct intergroup contact (i.e., Face to face interaction) was most impacted, the pandemic created a general context where opportunities for contact were restrained, and people were told to avoid creating new social interactions. In other words, for a specific period of time, societal norms about contact shifted and created a general wariness of the other. People were cautious about every interaction and turned away from interactions with unfamiliar people. For example, in the UK, the creation of a support bubble (i.e., a small number of people one was authorised to interact with under specific circumstances) pushed people to privileged interactions with people they already knew over new encounters (Roberts, 2021). With evidence accounting for the role of media and laws in influencing or predicting intergroup contact engagement (Crandall et al., 2018; Green et al., 2020) and the COVID-19 pandemic influencing attitudes (Alston et al., 2022; Tsai et al., 2020), the potential effect of the pandemic or the limitation of our results to this specific context has to be taken into account.

Model complexity.

Despite being the event happening at the time with the most direct connection to our data and the group we targeted, these three clusters of events are not only related to each other but also to other events (e.g., immigration crisis, climate change crisis) emphasizing the complexity of real life. In this thesis, we tried to draw a bigger picture and avoid repeating the single-factor fallacy issue present in the intergroup contact literature (e.g., studies focus on one factor or fail to include critical variables, Pettigrew & Hewstone, 2017). To this end, we proposed the Perception-norm model that states that individuals' meta-perceptions and perceptions of the outgroup inform their perception of the intergroup normative context, predicting their engagement in intergroup contact. We explored this model in two distinct intergroup contexts. However, when exploring real-life complex effects, our work was limited by time, budget, and general research limits.

Consequently, our work was limited regarding the factors (and their dimensions) and the intergroup context explored. More precisely, our work focused on meta-perceptions

of personality traits and measured four dimensions: competence, warmth, morality and general positivity. However, each dimension's perceptions and importance can differ depending on the group concerned. Different dimensions of perceptions, such as (meta-)dehumanisation and (meta-)prejudice, have been demonstrated to influence intergroup contact engagement but were not explored or controlled for in the present work. Further, studies have shown that the definition or importance of some of those definitions can vary between groups. For instance, individualisation vs bending morality matters for Democrats vs Republicans. Similarly, different groups elicited distinct emotional reactions as a response to the specific threat they posed (Alston, 2022; Seger et al., 2017). The current work accounts for the effect of those factors in two distinct yet specific intergroup contexts. We could have collected data from other types of groups with different characteristics, such as sexual orientation, which is not directly visible like attitude, yet not a choice like race.

Finally, we restricted the main part of our work to a serial mediation using structural equation modelling. One could argue we should have explored other, more complex options, including moderation, multilevel modelling or using a binominal outcome variable (e.g., actual contact as an outcome, past contact experiences and ingroup identification as moderators of meta-perception effect). Multilevel modelling would have been particularly helpful in comparing intergroup contexts (e.g., political vs racial groups). It would have allowed us to determine which differences are based on individuals (i.e., within effect) and which relate to group differences (i.e., between effect). By testing both a within and between latent model we can obtain a more precise understanding of how our model presents itself in different populations (Preacher et al., 2011). However, given the relatively small sample size, the impossibility of controlling for participants taking part in both Study 2 or 3 and Study 4 (i.e., due to the use of two recruitment platforms), and the availability of our data for only two groups, we believe testing such model was unrealistic. However, we do believe future studies should consider such models as they can provide a more refined understanding of the role of the intergroup context.

Similarly, we believe it would have been interesting to test for moderation effects. Doing so might have given us a better understanding of the role of certain of our covariates.

For instance, it would tell us if the effects we observe are the same for people who have more positive contact with the outgroup than those who have little positive contact. Likewise, as we argue these effects might differ for people that immerse themselves in a left or right-wing political bubble (i.e., political environment). Moderation analysis would have allowed us to move from mere speculation to a statistically supported conclusion regarding these effects. However, while this could have brought our understanding of the complexity of intergroup contact engagement further, we decided against it due to our sample size and the complexity of our initial model.

In summary, we tried our best to avoid repeating the single-factor fallacy issue and provide a bigger picture of the factors impacting intergroup contact engagement and their relation to each other. We believe we did so to some extent as we demonstrated the combined role of perception and norms in predicting actual and intentional contact as we intended to and advise future studies to go even further by building a more precise and complex understanding of the phenomenon.

Future directions

This thesis provides evidence of the combined role of perceptions and norms in predicting intergroup contact engagement, an effect dependent on context. However, we acknowledge limitations to this work, including the lack of control over the extended socio-cultural context and the complexity of the model. We argued that different perception effects could and should have been explored. Future directions should address these limits and extend our results. We propose a new program of studies that intends to overcome these limits and extend our results.

The sample: new intergroup contexts.

This thesis mentions that the effect of norms and perceptions depends on context. In the present work, we have focused on the political and racial context in the U.S. However, we believe future studies should go further. The first instance would add a new intergroup context. We believe sexual orientation would be a good choice as it is neither a choice (i.e., unlike political attitudes) nor visible (i.e., unlike race), making it the perfect intermediary

between political affiliation and race. Further, just like politics and race groups, sexual orientation is a source of tension and discrimination. For instance, the *Don't say gay* law passed in Florida in July 2020 illustrates how timely relevant it is to understand how to promote positive interactions between groups of different sexual orientations (i.e., mainly, but not only, between straight cis-gender and LGBTQIA+).

The second instance would be to explore different socio-cultural contexts. While the U.S. was a good place to start, we believe other socio-cultural contexts would provide important variation. We recommend conducting said studies in other contexts, such as Europe and Asia, where relations to race, sexual orientation and politics are different. For instance, Earle et al. (2020) demonstrated how personal contact experiences and country-level support for gay and lesbian or transgender rights increased personal support for said groups' rights. For example, for people with a low level of personal intergroup contact, their level of support for transgender rights was higher in countries with high support for transgender rights.

The pilot: exploring multiple dimensions of perception.

Throughout the present thesis, we have argued and demonstrated the importance of considering people's perspectives and the intergroup context. We recommend that future studies keep this perspective and prepare the ground for future work by considering people's naive perceptions and exploring more classical perceptions (e.g., meta-dehumanisation or prejudice) in different intergroup contexts.

Critics of the intergroup contact literature have highlighted the measure used and the distinction between laypeople's and scholars' definition of contact (Brown & Hewstone, 2005; Keil & Koschate, 2020). In the present work, we showed that people are able to reflect on intergroup contact engagement. Building on this, the pilot study of this research programme should measure people's perceptions. Precisely, using methods inspired by Fowler and Gasiorek (2020) work, we would conduct a two-step pilot study. The first step would consist of participants reflecting on the perception held by different target groups. Participants would be asked to list beliefs they think said groups (i.e., met-perceptions) hold about their groups or themselves and their beliefs about the outgroups.

The second step would measure different dimensions of perceptions either identified in the first part or *classical* dimensions identified in the literature (e.g., meta-dehumanisation, meta-prejudice).

Similarly to Study 2 to 5 measures of perception, participants would be asked how much they think a target outgroup perceives them or their group as one of the elements they listed before or a dimension from the literature. Or how much they perceive a targeted outgroup as ... For example, if, in the first part, White Americans indicated that they believed Black Americans to see White Americans in general as not supportive of collective action for Black people's rights. In part two, White Americans would be asked to what extent they believe Black Americans perceive White Americans as being prejudiced (i.e., classical dimensions) or unsupportive of action in favour of Black American rights (i.e., identified in the first part). Altogether, these first two-part study should allow us to identify which specific perceptions matter more in different intergroup contexts.

The Perception-norm model extended.

The second part of this programme of research would re-test the Perception-norm model. In the present thesis, we provide initial evidence that perception and norms have a combined role in intergroup contact engagement and that their effect depends on the intergroup context. The new study would use multilevel structural equation modelling to explore the relationship between these factors in different intergroup contexts. By using multilevel SEM, we could account for the variation in mediation effect at the individual, group and broader context (e.g., U.S., Europe, Asia) level.

In this study, we would measure meta-perception and perception of the outgroup based on the dimension established in the first part. We would also measure contact norms. To do so, a new measure would be designed. In the present work, the contact norms focused on friendship and general comfort with the outgroup. The measure would include additional aspects such as group diversity, inclusion orientation and support for contact behaviour. Finally, intentional and actual engagement and avoidance of intergroup contact would be measured. Building on current measures, participants would be asked about their intention and expected enjoyment of interacting or avoiding targeted outgroups

in general and specific situations (e.g., work, leisure, healthcare, etc.). The daily diary method would measure Actual contact and avoidance (Finkelstein et al., 2013; Keil et al., 2020). Participants would log in at regular intervals and report situations where they engaged, did not engage in or avoided intergroup interaction opportunities.

Finally, we would control for the effect of individual differences and broader social context. For individual differences, beyond ingroup identification (e.g., MacInnis, 2009), participants would answer measures of self-perception, self-projection, past contact experience and agreeableness and extraversion (e.g., Barlow et al., 2012; MacInnis, 2009; Turner et al., 2020). These measures have all been identified to influence perceptions, norms and contact engagement. Further, we would explore moderation effects by testing explorative models including these variables as potential moderators. The list of potential moderators might be reduced by first testing moderation in a series of multiple regressions.

Regarding the broader social context, we would build on previous work and measure the media environment, perception of laws, perception of rights (e.g., have too many privileges) and perception of timely relevant social events. Media environment would measure people's perception of media portraying or favouring the ingroup, both group, the outgroup and their values and their perception of each group's representation in said media. For instance, consumption of media such as CNN or FoxNews in the U.S. political context and their perception of Democrats or Republicans' representation in the media (e.g., there is a large enough number of targeted outgroup or ingroup members represented in the News media; targeted outgroup or ingroup members are correctly represented in the News media.). Perception of laws and rights would use items such as: the legal system provides enough support for targeted outgroup or ingroup people's rights; the legal system provides sufficient protection against discrimination toward targeted outgroup or ingroup members. Finally, perception of timely relevant social events would measure people's attitudes regarding events such as new policies or social protests occurring at the time. The social event impact could also be measured using analysis of press-based information (see O'Donnell et al., 2021, for a review).

Intervention.

Finally, while the first two of this research programme focus on the theoretical test of the Perception-norm model, the third part would implement it by developing intervention-like studies. This would extend the initial experimental evidence we provided in the current work in an intervention or policy-oriented way. The first part's results would have identified the combined effect of perceptions and norms on contact (intentional and actual) in different intergroup contexts (i.e., group type * socio-cultural context), giving enough theoretical knowledge to build interventions promoting positive intergroup contact engagement.

In this thesis, we conducted a study in which we manipulated perceptions using a fake tweet thread before measuring people's partner choice (i.e., either an ingroup or an outgroup member). We found a small effect of our manipulation and of the intergroup context. The study proposed here would extend these findings by using a more ecological method. To do so, we would place participants in a condition manipulating the perception or norms relevant to the specific intergroup context concerned. The intervention would have the purpose of promoting positive intergroup encounters. Consequently, positive meta-perception would be targeted, and the generation of negative meta-perception would be avoided. Picture the intervention. For instance, imagine that meta-prejudice is the main predictor in U.S. Racial context. Thus, we would manipulate White and Black Americans' meta-prejudice via repetitive exposure to mock social media over a certain period. Mock social media platforms allow to create social media feeds and for participants to interact with them (e.g., leave comments). The manipulation would be embedded in this feed, creating an exposure closer to real life in Study 5. Alternatively, real social media might be combined with control of exposure measures. Contact engagement would be measured before the first exposure, in the middle of the exposure timeframe, immediately after the exposure, and two and six months after the exposure. This would give us a long-term view of the effect of the intervention. Altogether, this study would give insight into the use of media as an intervention forum and provide evidence of such intervention's short- and long-term effects.

Summary and conclusion

This thesis has considered the limit of the intergroup contact literature by investigating the issue of intergroup contact engagement. Rather than focusing on one predictor, we argued that predictors act together to influence intergroup contact engagement. Rather than considering predictors universal, we argued that their effects depend on the intergroup context. In support of these claims, we build the Perception-norm model whereby intergroup contact engagement is predicted by the combined role of perceptions (meta-perception and perception of the outgroup) and contact norms. We hypothesised that how one believes to be perceived by a specific outgroup will influence their perception of this outgroup. If they believe to be positively seen by said outgroup, they will hold positive views regarding this same group. Further, we believed that these perceptions would inform individuals' perceptions of the normative context such that those holding positive perceptions perceive a more positive and open intergroup normative context (i.e., supporting intergroup contact). Altogether, we hypothesised that this meta-perception and perception of the outgroup and of the normative context would influence their engagement in intergroup contact with greater engagement in a positive intergroup context. In line with this model, we argued that we could only identify the finely-grained mechanisms responsible for intergroup contact engagement by investigating the structural relationship between those factors. Further, we argued that this should be reinforced by experimental evidence.

The empirical chapters within this thesis provided partial support for our model. Results support the conclusion that meta-perception has an indirect effect on intergroup contact engagement via the perception of the outgroup and norms but that this effect is context-dependent. The present findings provide new theoretical knowledge that will benefit future studies exploring the mechanisms behind intergroup contact engagement and can inform the design of intervention promoting said intergroup contact.

References

Aberson, C. L. (2015). Positive intergroup contact, negative intergroup contact, and threat as predictors of cognitive and affective dimensions of prejudice. *Group Processes and Intergroup Relations*, *18*(6), 743–760. https://doi.org/10.1177/1368430214556699

Adra, A., Li, M., & Baumert, A. (2020). What they think of us: Meta-beliefs and solidarity-based collective action among the advantaged. *European Journal of Social Psychology*. https://doi.org/10.1002/ejsp.2675

Ajzen, I., Fishbein, M., …, S. L. .-. T. h. o., & 2018, u. (2018). The influence of attitudes on behavior. In *The handbook of attitudes, volume 1: Basic principles*. https://www.taylorfrancis.com/chapters/edit/10.4324/9781315178103-5/influence-attitudes-behavior-icek-ajzen-martin-fishbein-sophie-lohmann-dolores-albarrac%C3%ADn

Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human*. https://doi.org/10.1080/08870446.2011.613995

Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, *84*(5), 888–918. https://doi.org/10.1037/0033-2909.84.5.888

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviour*. https://pdfs.semanticscholar.org/0e84/1ed289a3cf9b9a799da4b344bd9397542c2e.pdf%20http://www.citeulike.org/group/38/article/235626

Al Ramiah, A., Schmid, K., Hewstone, M., & Floe, C. (2015). Why are all the White (Asian) kids sitting together in the cafeteria? Resegregation and the role of intergroup attributions and norms. *British Journal of Social Psychology*, *54*(1), 100–124. https://doi.org/10.1111/bjso.12064

Albarracin, D., Johnson, B. T., & Zanna, M. P. (2005). The Handbook of attitudes. *Choice Reviews Online*, *43*(02), 43–1254. https://doi.org/10.5860/choice.43-1254

Allport, G., Clark, K., & Pettigrew, T. (1954). The nature of prejudice. http://althaschool.org/_cache/files/7/1/71f96bdb-d4c3-4514-bae2-9bf809ba9edc/97F5FE75CF9A120E7DC108EB1B0FF5EC.holocaust-the-nature-of-prejudice.doc

Alston, L. (2022). Threat and Emotion: Using Target-specific Contact Processes to Explain Diverse Intergroup Behaviours. https://ueaeprints.uea.ac.uk/id/eprint/91516/

Alston, L., Meleady, R., & Seger, C. R. (2022). Can past intergroup contact shape support for policies in a pandemic? Processes predicting endorsement of discriminatory Chinese restrictions during the COVID-19 crisis. *Group Processes & Intergroup Relations*, *25*(1), 122–132. https://doi.org/10.1177/1368430220959710

Altemeyer, B. (1996). *The authoritarian specter*. Harvard University Press.

Argyle, M. (2017). *Social interaction: Process and products*. https://doi.org/10.4324/9781315129549

Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of personality and social psychology*, *63*(4), 596.

Asbrock, F., Gutenbrunner, L., & Wagner, U. (2013). Unwilling, but not unaffected—imagined contact effects for authoritarians and social dominators. *European Journal of Social Psychology*, *43*(5), 404–412.

B. Keith Payne, H. A. V., & Lundberg, K. B. (2017). The bias of crowds: How implicit bias bridges personal and systemic prejudice. *Psychological Inquiry*, *28*(4), 233–248. https://doi.org/10.1080/1047840X.2017.1335568

Babbitt, L. G., Gaither, S. E., Toosi, N. R., & Sommers, S. R. (2018). The role of gender in racial meta-stereotypes and stereotypes. *Social Cognition*, *36*(5), 589–601. https://doi.org/10.1521/soco.2018.36.5.589

Bagci, S. C., & Gungor, H. (2019). Associations between perceived positive and negative parental contact and adolescents' intergroup contact experiences. *International Journal of Intercultural Relations*, *69*, 76–86. https://doi.org/10.1016/j.ijintrel.2019.01.002

Bagci, S. C., Husnu, S., Turnuklu, A., & Tercan, M. (2020a). Contact Volition Do I Really Want to Engage in Contact? Volition as a New Dimension of Intergroup Contact. *European Journal of Social Psycholog*. https://doi.org/10.1002/ejsp.2733

Bagci, S. C., Turnuklu, A., & Tercan, M. (2020b). Positive intergroup contact decreases the likelihood that prejudicial attitudes become avoidant behavioral tendencies. *European Journal of Social Psychology*, *50*(3), 597–613. https://doi.org/10.1002/ejsp.2646

Bailey, Z. D., Feldman, J. M., & Bassett, M. T. (2021). How Structural Racism Works — Racist Policies as a Root Cause of U.S. Racial Health Inequities. *New England Journal of Medicine*, *384*(8), 768–773. https://doi.org/10.1056/NEJMMS2025396/SUPPL{_}FILE/NEJMMS2025396{_}DISCLOSURES.PDF

Banas, J. A., Bessarabova, E., & Massey, Z. B. (2020). Meta-Analysis on Mediated Contact and. *46*, 120–160. https://doi.org/10.1093/hcr/hqaa004

Barlow, F. K., Louis, W. R., & Hewstone, M. (2009). Rejected! cognitions of rejection and intergroup anxiety as mediators of the impact of cross-group friendships on prejudice. *British Journal of Social Psychology*, *48*(3), 389–405. https://doi.org/10.1348/014466608X387089

Barlow, F. K., Paolini, S., Pedersen, A., Hornsey, M. J., Radke, H. R., Harwood, J., Rubin, M., & Sibley, C. G. (2012). The Contact Caveat: Negative Contact

Predicts Increased Prejudice More Than Positive Contact Predicts Reduced Prejudice. *Personality and Social Psychology Bulletin*, *38*(12), 1629–1643. https://doi.org/10.1177/0146167212457953

Barroso, A. (2020). Most black adults say race is central to their identity and feel connected to a broader black community. https://www.pewresearch.org/short-reads/2020/02/05/most-black-adults-say-race-is-central-to-their-identity-and-feel-connected-to-a-broader-black-community/

Bataille, A., & Hajji, S. (2017). Le biais de reconnaissance inter-ethnie (other ethnicity effect): Une méta-analyse de 47 ans de recherches. *Unpublished.*

Bates, D., Machler, M., Bolker, B., & Walker, B. (2015). Fitting Linear Mixed-Effects Models Using (lme4). *Journal of Statistical Software*, *67*(1), 1–48.

Bilewicz, M. (2007). History as an obstacle: Impact of temporal-based social categorizations on Polish-Jewish intergroup contact. *Group Processes and Intergroup Relations*, *10*(4), 551–563. https://doi.org/10.1177/1368430207081540

Bilewicz, M., Witkowska, M., Pantazi, M., Gkinopoulos, T., & Klein, O. (2019). Traumatic rift: How conspiracy beliefs undermine cohesion after societal trauma? *Europe's Journal of Psychology*, *15*(1), 82–93. https://doi.org/10.5964/ejop.v15i1.1699

Binder, J., Zagefka, H., Brown, R., Funke, F., Kessler, T., Mummendey, A., Maquil, A., Demoulin, S., & Leyens, J. P. (2009). Does Contact Reduce Prejudice or Does Prejudice Reduce Contact? A Longitudinal Test of the Contact Hypothesis Among Majority and Minority Groups in Three European Countries. *Journal of Personality and Social Psychology*, *96*(4), 843–856. https://doi.org/10.1037/a0013470

Birtel, M. D., Vezzali, L., & Stathi, S. (2018). Extended contact and affective factors: A review and suggestions for future research. *Testing, Psychometrics, Methodology in Applied Psychology*, *25*(2), 213–238.

Blascovich, J., Mendes, W. B., Hunter, S. B., Lickel, B., & Kowai-Bell, N. (2001). Perceiver threat in social interactions with stigmatized others. *Journal of personality and social psychology*, *80*(2), 253.

Borinca, I., Tropp, L. R., & Ofosu, N. (2021). Meta-humanization enhances positive reactions to prosocial cross-group interaction. *British Journal of Social Psychology*. https://doi.org/10.1111/bjso.12435

Breslin, M. (2021). 84 percent of Trump voters are worried about discrimination against whites. https://thehill.com/homenews/news/575899-84-percent-of-trump-voters-are-worried-about-discrimination-against-whites-poll/

Brewer, M. B., & Miller, N. (1984). *Beyond the Contact Hypothesis: Theoretical Perspectives on Desegregation*. ACADEMIC PRESS, INC. https://doi.org/10.1016/b978-0-12-497780-8.50019-x

Brown, J. R., & Enos, R. D. (2021). The measurement of partisan sorting for 180 million voters. *Nature Human Behaviour*, *5*(8), 998–1008. https://doi.org/10.1038/s41562-021-01066-z

Brown, R., & Hewstone, M. (2005). An integrative theory of intergroup contact. *Advances in Experimental Social Psychology*, *37*, 255–343. https://doi.org/10.1016/S0065-2601(05)37005-5

Brown, R., Vivian, J., & Hewstone, M. (1999). Changing attitudes through intergroup contact: the effects of group membership salience. *European Journal of Social Psychology*, *29*, 741–764. https://doi.org/10.1002/(SICI)1099-0992(199908/09)29:5/6

Bruneau, E., Hameiri, B., Moore-Berg, S. L., & Kteily, N. (2021). Intergroup Contact Reduces Dehumanization and Meta-Dehumanization: Cross-Sectional, Longitudinal, and Quasi-Experimental Evidence From 16 Samples in Five Countries. *Personality and Social Psychology Bulletin*, *47*(6), 906–920. https://doi.org/10.1177/0146167220949004

Brylka, A., Jasinskaja-Lahti, I., of, T. M. .-. I. J., & 2016, u. (2016). The majority influence on interminority attitudes: The secondary transfer effect of positive and negative contact. *Elsevier*, *50*, 76–88. https://www.sciencedirect.com/science/article/pii/S0147176715301826

Burns, K. C., Isbell, L. M., & Tyler, J. M. (2008). Suppressing emotions toward stereotyped targets: The impact on willingness to engage in contact. *Social Cognition*, *26*(3), 276–287.

Byrne, B. M. (2001). Structural equation modeling with amos, eqs, and lisrel: Comparative approaches to testing for the factorial validity of a measuring instrument. *International journal of testing*, *1*(1), 55–86.

Cameron, L., Rutland, A., Hossain, R., & Petley, R. (2011). When and why does extended contact work? the role of high quality direct contact and group norms in the development of positive ethnic intergroup attitudes amongst children. *Group Processes and Intergroup Relations*, *14*(2), 193–206. https://doi.org/10.1177/1368430210390535

Capitol riots timeline: What happened on 6 January 2021? (2022). https://www.bbc.co.uk/news/world-us-canada-56004916

Capozza, D., Di Bernardo, G. A., & Falvo, R. (2017). Intergroup contact and outgroup humanization: Is the causal relationship uni- or bidirectional? *PLoS ONE*, *12*(1), 1–19. https://doi.org/10.1371/journal.pone.0170554

Capozza, D., Falvo, R., Favara, I., & Trifiletti, E. (2013). The relationship between direct and indirect cross-group friendships and outgroup humanization:emotional and cognitive mediators. *TPM - Testing, Psychometrics, Methodology in Applied Psychology*, *20*(4), 383–397. https://doi.org/10.4473/TPM20.4.6

Carew, M. T., Noor, M., & Burns, J. (2019). The impact of exposure to media coverage of the 2012 Paralympic Games on mixed physical ability interac-

tions. *Journal of Community and Applied Social Psychology*, *29*(2), 104–120. https://doi.org/10.1002/casp.2387

Case, K. A. (2007). Raising white privilege awareness and reducing racial prejudice: Assessing diversity course effectiveness. *Teaching of Psychology*, *34*(4), 231–235.

Christ, O., Schmid, K., Lolliot, S., Swart, H., Stolle, D., Tausch, N., Ramiah, A. A., Wagner, U., Vertovec, S., & Hewstone, M. (2014). Contextual effect of positive intergroup contact on outgroup prejudice. *Proceedings of the National Academy of Sciences of the United States of America*, *111*(11), 3996–4000. https://doi.org/10.1073/pnas.1320901111

Chung, A., & Rimal, R. N. (2016). Social norms: A review. *Review of Communication Research*, *4*, 1–28. https://doi.org/10.12840/issn.2255-4165.2016.04.01.008

Cialdini, R. B., & Jacobson, R. P. (2021, December). Influences of social norms on climate change-related behaviors. https://doi.org/10.1016/j.cobeha.2021.01.005

Cialdini, R. B., Reno, R. R., & Kallgren, C. A. (1990). A Focus Theory of Normative Conduct: Recycling the Concept of Norms to Reduce Littering in Public Places. *Journal of Personality and Social Psychology*, *58*(6), 1015–1026. https://doi.org/10.1037/0022-3514.58.6.1015

Cialdini, R. B., & Trost, M. (1998). Social influence: Social norms, conformity and compliance. https://psycnet.apa.org/record/1998-07091-021

Cocco, V. M., Bisagno, E., Visintin, E. P., Cadamuro, A., Di Bernardo, G. A., Trifiletti, E., Molinari, L., & Vezzali, L. (2021). Fighting stigma-based bullying in primary school children: An experimental intervention using vicarious intergroup contact and social norms. *Social Development*. https://doi.org/10.1111/SODE.12574

Converse, P. E., Dotson, J. D., Hoag, W. J., & McGee, W. H. (1980). *Review of American social attitudes data sourcebook: 1947-1978.* (Vol. 25). Harvard University Press. https://doi.org/10.1037/018130

Cooley, J. J., & Burkholder, G. J. (2011). *Using Video and Contact to Change Attitudes Toward Gay Men and Lesbians* (tech. rep. No. 1). Walden University. https://doi.org/10.5590/JSBHS.2011.05.1.08

Corrington, A., Fa-Kaji, N. M., Hebl, M., Salgado, A., Brown, N. D., & Ng, L. (2023). The Influence of Social Norms on the Expression of Anti-Black Bias. *Journal of Business and Psychology*, *38*(1), 89–108. https://doi.org/10.1007/S10869-022-09822-2/TABLES/5

Cottrell, C. A., & Neuberg, S. L. (2005). Different emotional reactions to different groups: A sociofunctional threat-based approach to "prejudice". *Journal of Personality and Social Psychology*, *88*(5), 770–789. https://doi.org/10.1037/0022-3514.88.5.770

Crandall, C. S., Miller, J. M., & White, M. H. (2018). Changing Norms Following the 2016 U.S. Presidential Election. *Social Psychological and Personality Science*, *9*(2), 186–192. https://doi.org/10.1177/1948550617750735

Crisp, R. J., & Husnu, S. (2011). Attributional processes underlying imagined contact effects. *Group Processes and Intergroup Relations*, *14*(2), 275–287. https://doi.org/10.1177/1368430210390721

Crisp, R. J., & Turner, R. N. (2009). Can imagined interactions produce positive perceptions? Reducing prejudice through simulated social contact. *American Psychologist*, *64*(4), 231.

Cuddy, A. J., Fiske, S. T., & Glick, P. (2008). Warmth and competence as universal dimensions of social perception: The stereotype content model and the bias map. *Advances in experimental social psychology*, *40*, 61–149.

Davis, M. H. (2018). *Empathy: A social psychological approach.* Routledge.

de Tezanos-Pinto, P., Bratt, C., & Brown, R. (2010). What will the others think? In-group norms as a mediator of the effects of intergroup contact. *British Journal of Social Psychology*, *49*(3), 507–523. https://doi.org/10.1348/014466609X471020

Dhont, K., & Van Hiel, A. (2009). We must not be enemies: Interracial contact and the reduction of prejudice among authoritarians. *Personality and individual differences*, *46*(2), 172–177.

Dixon, J., & McKeown, S. (2021). Negative contact, collective action, and social change: Critical reflections, technological advances, and new directions. *Journal of Social Issues*, *77*(1), 242–257. https://doi.org/10.1111/josi.12429

Dixon, J., Tredoux, C., Davies, G., Huck, J., Hocking, B., Sturgeon, B., Whyatt, D., Jarman, N., & Bryan, D. (2019). Parallel Lives: Intergroup Contact, Threat, and the Segregation of Everyday Activity Spaces. *Journal of Personality and Social Psychology*. https://doi.org/10.1037/pspi0000191

Dobson, A., & Barnett, A. (2018). *An introduction to generalized linear models*. https://books.google.com/books?hl=en&lr=&id=AS_3DwAAQBAJ&oi=fnd&pg=PP1&ots=JanCzlaaP9&sig=gj0xD1EEoSvIm2ybY7ppLW98mng

Donnelly, K., Moon, A., & Critcher, C. R. (2022). Do people know how others view them? Two approaches for identifying the accuracy of metaperceptions. *Current Opinion in Psychology*, *43*, 119–124. https://doi.org/10.1016/J.COPSYC.2021.06.018

Dovidio, J. F., Love, A., Schellhaas, F. M., & Hewstone, M. (2017). Reducing intergroup bias through intergroup contact: Twenty years of progress and future directions. *Group Processes and Intergroup Relations*, *20*(5), 606–620. https://doi.org/10.1177/1368430217712052

Earle, M., Hoffarth, M. R., Prusaczyk, E., MacInnis, C. C., & Hodson, G. (2020). A multilevel analysis of LGBT (Lesbian, Gay, Bisexual, Transgender) rights

support across 77 countries: The role of contact and country laws. *British Journal of Social Psychology*, bjso.12436. https://doi.org/10.1111/bjso.12436

Eddo-Lodge, R. (2020). *Why I'm no longer talking to white people about race*. https://books.google.com/books?hl=en&lr=&id=D0MIEAAAQBAJ&oi=fnd&pg=PP1&dq=why+I+no+longer+talk+about+race+with+white+people&ots=l-PXWhDmJC&sig=YdeMe1yBQzXVf-uYq0bwhgITNrw

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G* power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior research methods*, *39*(2), 175–191.

Finkelstein, L. M., Ryan, K. M., & King, E. B. (2013). What do the young (old) people think of me? Content and accuracy of age-based metastereotypes. *European Journal of Work and Organizational Psychology*, *22*(6), 633–657. https://doi.org/10.1080/1359432X.2012.673279

Fiske, S. T. (2002). What we know now about bias and intergroup conflict, the problem of the century. *Current Directions in Psychological Science*, *11*(4), 123–128.

Flanagin, A., Frey, T., & Christiansen, S. L. (2021a). *Updated Guidance on the Reporting of Race and Ethnicity in Medical and Science Journals* (tech. rep.). https://jamanetwork.com/

Flanagin, A., Frey, T., & Christiansen, S. L. (2021b). Updated Guidance on the Reporting of Race and Ethnicity in Medical and Science Journals. *JAMA*, *326*(7), 621–627. https://doi.org/10.1001/JAMA.2021.13304

Fowler, C., & Gasiorek, J. (2020). Implications of metastereotypes for attitudes toward intergenerational contact. *Group Processes and Intergroup Relations*, *23*(1), 48–70. https://doi.org/10.1177/1368430217744032

French, B. F., & Finch, W. H. (2006). Confirmatory factor analytic procedures for the determination of measurement invariance. *Structural Equation Modeling*, *13*(3), 378–402. https://doi.org/10.1207/S15328007SEM1303{_}3

Frey, F. E., & Tropp, L. R. (2006, August). Being seen as individuals versus as group members: Extending research on metaperception to intergroup contexts. https://doi.org/10.1207/s15327957pspr1003{_}5

Friehs, M.-T., Bracegirdle, C., Reimer, N. K., Wölfer, R., Schmidt, P., Wagner, U., & Hewstone, M. (2022). The between-person and within-person effects of intergroup contact on outgroup attitudes: A multi-context examination. *Social Psychological and Personality Science*, 19485506231153017.

Glasford, D. E., & Dovidio, J. F. (2011). E pluribus unum: Dual identity and minority group members' motivation to engage in contact, as well as social change. *Journal of Experimental Social Psychology*, *47*(5), 1021–1024.

Goeschl, T., Kettner, S. E., Lohse, J., & Schwieren, C. (2018). From social information to social norms: Evidence from two experiments on donation behaviour. *Games*, *9*(4), 1–25. https://doi.org/10.3390/g9040091

Gómez, A., Tropp, L. R., & Fernández, S. (2011). When extended contact opens the door to future contact: Testing the effects of extended contact on attitudes and intergroup expectancies in majority and minority groups. *Group Processes and Intergroup Relations*, *14*(2), 161–173. https://doi.org/10.1177/1368430210391119

Gómez, Á., Dovidio, J. F., Huici, C., Gaertner, S. L., & Cuadrado, I. (2008). The other side of we: When outgroup members express common identity. *Personality and Social Psychology Bulletin*, *34*(12), 1613–1626.

Gordijn, E. H., Vacher, L., & Kuppens, T. (2017). "To serve and protect" when expecting to be seen negatively: The relation between police officers' contact with citizens, meta-stereotyping, and work-related well-being. *Journal of Community and Applied Social Psychology*, *27*(3), 253–268. https://doi.org/10.1002/casp.2310

Graf, S., Paolini, S., & Rubin, M. (2014). Negative intergroup contact is more influential, but positive intergroup contact is more common: Assessing contact

prominence and contact prevalence in five Central European countries. *European Journal of Social Psychology*, *44*(6), 536–547. https://doi.org/10.1002/ejsp.2052

Green, E. G., Visintin, E. P., Sarrasin, O., & Hewstone, M. (2020). When integration policies shape the impact of intergroup contact on threat perceptions: a multilevel study across 20 European countries. *Journal of Ethnic and Migration Studies*, *46*(3), 631–648. https://doi.org/10.1080/1369183X.2018.1550159

Gretz, A. (2020). NHL players speak on decision to postpone playoff games. *NBC*. https://nhl.nbcsports.com/2020/08/27/nhl-players-speak-on-decision-to-postpone-playoff-games/

Grütter, J., & Meyer, B. (2014). Intergroup friendship and children's intentions for social exclusion in integrative classrooms: The moderating role of teachers' diversity beliefs. *Journal of Applied Social Psychology*, *44*(7), 481–494. https://doi.org/10.1111/jasp.12240

Grutterink, H., & Meister, A. (2021). Thinking of you thinking of me: An integrative review of meta-perception in the workplace. *Journal of Organizational Behavior*. https://doi.org/10.1002/job.2516

Guimond, S., De Oliveira, P., Lalonde, K. N., Lalonde, R. N., Pratto, F., Sidanius, J., Richard, J. C., Kamiejski, R., Kuepper, B., Levin, S., Tougas, F., & Zick, A. (2013). Diversity policy, social dominance, and intergroup relations: Predicting prejudice in changing social and political contexts. *Journal of Personality and Social Psychology*, *104*(6), 941–958. https://doi.org/10.1037/a0032069

Halperin, E. (2008). Group-based hatred in intractable conflict in israel. *Journal of Conflict Resolution*, *52*(5), 713–736.

Hanel, P. H., & Vione, K. C. (2016). Do student samples provide an accurate estimate of the general public? *PLoS ONE*, *11*(12). https://doi.org/10.1371/JOURNAL.PONE.0168354

Harwood, J. (1997). Viewing age: Lifespan identity and television viewing choices. *Journal of Broadcasting & Electronic Media*, *41*(2), 203–213. https://doi.org/10.1080/08838159709364401

Harwood, J. (2010). The Contact Space: A Novel Framework for Intergroup Contact Research. *Articles Journal of Language and Social Psychology*, *29*(2), 147–177. https://doi.org/10.1177/0261927X09359520

Harwood, J. (2021). Modes of intergroup contact: If and how to interact with the outgroup. *Journal of Social Issues*, josi.12421. https://doi.org/10.1111/josi.12421

Hässler, T., Uluğ, Ö. M., Kappmeier, M., & Travaglino, G. A. (2020a). Intergroup Contact and Social Change: An Integrated Contact-Collective Action Model. *Journal of Social Issues*.

Hässler, T., Ullrich, J., Bernardino, M., Shnabel, N., Laar, C. V., Valdenegro, D., Sebben, S., Tropp, L. R., Visintin, E. P., González, R., Ditlmann, R. K., Abrams, D., Selvanathan, H. P., Branković, M., Wright, S., Zimmermann, J. v., Pasek, M., Aydin, A. L., Žeželj, I., … Ugarte, L. M. (2020b). A large-scale test of the link between intergroup contact and support for social change. *Nature human behaviour*, *4*, 380–386. https://doi.org/10.1038/s41562-019-0815-z

Hayes, A. F., Montoya, A. K., & Rockwood, N. J. (2017). The analysis of mechanisms and their contingencies: PROCESS versus structural equation modeling. *Australasian Marketing Journal*, *25*(1), 76–81. https://doi.org/10.1016/j.ausmj.2017.02.001

Hayward, L. E., Hornsey, M. J., Tropp, L. R., & Barlow, F. K. (2017). Positive and negative intergroup contact predict Black and White Americans' judgments about police violence against Black Americans. *Journal of Applied Social Psychology*, *47*(11). https://doi.org/10.1111/jasp.12463

Hayward, L. E., Tropp, L. R., Hornsey, M. J., & Barlow, F. K. (2018). How negative contact and positive contact with Whites predict collective action among racial and ethnic minorities. *British Journal of Social Psychology*, *57*(1). https://doi.org/10.1111/bjso.12220

He, W., Xu, L., Sun, Y., Luo, J., & Li, H. (2017). Effects of negative metastereotype on intergroup relations among rural-to-urban migrant children in China. *Social Behavior and Personality*, *45*(6), 931–941. https://doi.org/10.2224/sbp.6548

Hermida, A., Fletcher, F., Korell, D., & Logan, D. (2012). SHARE, LIKE, RECOMMEND. *https://doi.org/10.1080/1461670X.2012.664430*, *13*(5-6), 815–824. https://doi.org/10.1080/1461670X.2012.664430

Hewstone, M., Judd, C., Social, M. S. .-. J. o. E., & 2011, u. (n.d.). Do observer ratings validate self-reports of intergroup contact?: A round-robin analysis. *Elsevier*. https://www.sciencedirect.com/science/article/pii/S0022103110002829

Hodson, G., & Bruneau, E. (2016). They See Us as Less Than Human: Metadehumanization Predicts Intergroup Conflict via Reciprocal Dehumanization. *Community Psychology Commons, Gender, Race, Sexuality, and Journal of Personality and Social Psychology*, *110*(3), 343–370. https://doi.org/10.1037/pspa0000044.supp

Hodson, G., Crisp, R. J., Meleady, R., & Earle, M. (2018). Intergroup Contact as an Agent of Cognitive Liberalization. *Perspectives on Psychological Science*, *13*(5), 523–548. https://doi.org/10.1177/1745691617752324

Hodson, G., & Meleady, R. (2023). Replicating and extending sengupta et al.(in press): Contact predicts no within-person longitudinal outgroup-bias change. *American Psychologist*.

Horowitz, J. M., Brown, A., & Cox, K. (2019). Views on Race in America 2019. https://www.pewresearch.org/social-trends/2019/04/09/race-in-america-2019/

Hu, L.-t., Bentler, P. M., et al. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling*, *6*(1), 1–55.

Huck, J. J., Whyatt, J. D., Dixon, J., Sturgeon, B., Hocking, B., Davies, G., Jarman, N., & Bryan, D. (2019). Exploring Segregation and Sharing in Belfast: A PGIS Approach. *Annals of the American Association of Geographers*, *109*(1), 223–241. https://doi.org/10.1080/24694452.2018.1480930

Hugenberg, K., Miller, J., & Claypool, H. M. (2007). Categorization and individuation in the cross-race recognition deficit: Toward a solution to an insidious problem. *Journal of Experimental Social Psychology*, *43*(2), 334–340. https://doi.org/https://doi.org/10.1016/j.jesp.2006.02.010

Husnu, S., Mertan, B., & Cicek, O. (2018). Reducing Turkish Cypriot children's prejudice toward Greek Cypriots: Vicarious and extended intergroup contact through storytelling. *Group Processes and Intergroup Relations*, *21*(1), 178–192. https://doi.org/10.1177/1368430216656469

Institute for Economics and Peace. (2022, June). *Global Peace Index: Measuring Peace in a Complex World* (tech. rep.). Sydney. https://www.visionofhumanity.org/wp-content/uploads/2022/06/GPI-2022-web.pdf

Issa, E., & Kunst, J. (2019, July). *Arab Muslims' Negative Meta-Perceptions and Non-Normative Collective Action* (tech. rep.). https://repositorio.iscte-iul.pt/handle/10071/19853

Issmer, C., Stellmacher, J., Gollwitzer, M., & Issmer, C. (2013). When disadvantaged adolescents strike out : the impact of negative metastereotypes on delinquency. *3*(1), 4–18. https://doi.org/10.1108/20093821311307721

Iyengar, S., communication, K. H. .-. J. o., & 2009, u. (2009). Red media, blue media: Evidence of ideological selectivity in media use. *Journal of Communication*, *59*(1), 19–39. https://academic.oup.com/joc/article-abstract/59/1/19/4098357

Iyengar, S., Lelkes, Y., Levendusky, M., Malhotra, N., & Westwood, S. J. (2019). The Origins and Consequences of Affective Polarization in the United States. *https://doi.org/10.1146/annurev-polisci-051117-073034*, *22*, 129–146. https://doi.org/10.1146/ANNUREV-POLISCI-051117-073034

Jugert, P., Noack, P., & Rutland, A. (2011). Friendship Preferences Among German and Turkish Preadolescents. *Child Development*, *82*(3), 812–829. https://doi.org/10.1111/j.1467-8624.2010.01528.x

Jurkowitz, M., & Mitchell, A. (2020). *About one-fifth of Democrats and Republicans get political news in a kind of media bubble* (tech. rep.). Pew Research Center.

Kauff, M., Beneda, M., Paolini, S., Bilewicz, M., Kotzur, P., O'Donnell, A. W., Stevenson, C., Wagner, U., & Christ, O. (2020). How do we get people into contact? Predictors of intergroup contact and drivers of contact seeking. *Journal of Social Issues*, (October), 1–26. https://doi.org/10.1111/josi.12398

Kauff, M., Green, E. G., Schmid, K., Hewstone, M., & Christ, O. (2016). Effects of majority members' positive intergroup contact on minority members' support for ingroup rights: Mobilizing or demobilizing effects? *European Journal of Social Psychology*, *46*(7), 833–839. https://doi.org/10.1002/ejsp.2194

Keil, T. F., & Koschate, M. (2020). Variations in subjective definitions of everyday situations as intergroup contact. *British Journal of Social Psychology*, *59*(4), 965–991. https://doi.org/10.1111/bjso.12372

Keil, T. F., Koschate, M., & Levine, M. (2020). Contact Logger: Measuring everyday intergroup contact experiences in near-time. *Behavior Research Methods*, *52*(4), 1568–1586. https://doi.org/10.3758/s13428-019-01335-w

Kline, B., Rex. (n.d.). *Principles and Practice of Structural Equation Modeling*.

Knobloch-Westerwick, S., Appiah, O., Psychology, S. A. .-. M., & 2008, u. (2008). News selection patterns as a function of race: The discerning minority and the indiscriminating majority. *Taylor & Francis*, *11*(3), 400–417. https://doi.org/10.1080/15213260802178542

Kteily, N., & Hodson, G. (2016). They See Us as Less Than Human : Metadehumanization Predicts Intergroup Conflict via Reciprocal Dehumanization They See Us as Less Than Human : Metadehumanization Predicts. *110*, 343–370.

Landry, A. P., Ihm, E., & Schooler, J. W. (2021). Hated but still human: Metadehumanization leads to greater hostility than metaprejudice. *Group Processes and Intergroup Relations*. https://doi.org/10.1177/1368430220979035

Leach, C. W., Ellemers, N., & Barreto, M. (2007). Group virtue: The importance of morality (vs. competence and sociability) in the positive evaluation of in-groups. *Journal of personality and social psychology*, *93*(2), 234.

Lee, J. (2000). The Salience of Race in Everyday Life Black Customers' Shopping Experiences in Black and White Neighborhoods.

Lees, J., & Cikara, M. (2020). Inaccurate group meta-perceptions drive negative out-group attributions in competitive contexts. *Nature Human Behaviour*, *4*(3), 279–286. https://doi.org/10.1038/s41562-019-0766-4

Lees, J. M. (2021). *The consequences of inaccurate group meta-perception* (Publication No. 6-B) [Doctoral dissertation]. http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2021-08067-098&amp%0Alang=de&site=chost-live

Lemmer, G., Psychology, M. G. .-. J. o. E. S., & 2017, u. (n.d.). The "true" indirect effect won't (always) stand up: When and why reverse mediation testing fails. *Elsevier*. https://www.sciencedirect.com/science/article/pii/S0022103116302876

Lemmer, Gunnar, Wagner, & Ulrich. (2015). Can we really reduce ethnic prejudice outside the lab? A meta-analysis of direct and indirect contact interventions. *European Journal of Social Psychology*, *45*(2), 152–168. https://doi.org/10.1002/ejsp.2079

Lenth, R. V. (2023). emmeans: Estimated Marginal Means, aka Least-Squares Means. https://CRAN.R-project.org/package=emmeans

Lewin, K. (1939). Field theory and experiment in social psychology: Concepts and methods. *American journal of sociology*, *44*(6), 868–896.

Li, W., Gao, L., Chen, H., Cao, N., & Sun, B. (2018). Prediction of injunctive and descriptive norms for willingness to quit smoking: The mediating role of smoking risk perception. *Journal of Substance Use*, *23*(3), 274–279. https://doi.org/10.1080/14659891.2017.1394378

Lin, M. C., Haridakis, P. M., & Zhang, Y. B. (2020). Political Party Identification and Intergroup Attitudes: Exploring the Effects of Mediated and Direct Contact With the Opposing Party During a Presidential Campaign. *International Journal of Communication*, *14*, 2446–2463.

Lindsay, J. M. (2020). Ten Most Significant World Events in 2020. https://www.cfr.org/blog/ten-most-significant-world-events-2020

Lindsay, J. M. (2021). Ten Most Significant World Events in 2021. https://www.cfr.org/blog/ten-most-significant-world-events-2021

Livingstone, A. G., Rodríguez, L. F., & Rothers, A. (2019). "They Just Don't Understand Us": The Role of Felt Understanding in Intergroup Relations. *Journal of Personality and Social Psychology*. https://doi.org/10.1037/pspi0000221

Lu, J., Duan, H., & Xie, X. (2018). Eagerness and optimistically biased metaperception: The more eager to learn others' evaluations, the higher the estimation of others' evaluations. *Frontiers in Psychology*, *9*(MAY). https://doi.org/10.3389/fpsyg.2018.00715

Ma, Y., Dang, Q., & Zhang, B. (2021). Effect of metastereotypes on female cooperative behaviour and the mediating role of intergroup anxiety. *Asian Journal of Social Psychology*. https://doi.org/10.1111/ajsp.12474

MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological methods*, *1*(2), 130.

MacInnis, C., & Hodson, G. (2012). 'Where the rubber hits the road' en route to inter-group harmony: Examining contact intentions and contact behaviour under meta-stereotype threat. *British Journal of Social Psychology*, *51*(2), 363–373. https://doi.org/10.1111/j.2044-8309.2010.02014.x

MacInnis, C. C. (2009). *Perceptions of intergroup bias: The roles of social projection and meta-stereotypes* [Doctoral dissertation]. http://dr.library.brocku.ca/handle/10464/2867%20https://search.proquest.com/docview/305168058?accountid=10499%0Ahttp://ap6jm8wd2t.search.serialssolutions.com/directLink?&atitle=Perceptions+of+intergroup+bias%3A+The+roles+of+social+projection+and+meta-stereo

Mackinnon, D. P., Krull, J. L., & Lockwood, C. M. (2000). *Equivalence of the Mediation, Confounding and Suppression Effect* (tech. rep. No. 4).

Marinucci, M., Maunder, R., Sanchez, K., Thai, M., McKeown Jones, S., Turner, R. N., & Stevenson, C. (2020). Intimate intergroup contact across the lifespan. *Journal of Social Issues*. https://doi.org/10.1111/josi.12399

Matera, C., & Catania, M. A. (2021). Correlates of international students' intergroup intentions and adjustment: The role of metastereotypes and intercultural communication apprehension. *International Journal of Intercultural Relations*, *82*, 288–297. https://doi.org/10.1016/j.ijintrel.2021.04.011

Matera, C., Meringolo, P., & Reino, M. (2020). Metastereotypes, perceived mattering, and well-being among minority groups. *Taylor & Francis*. https://doi.org/10.1080/13548506.2020.1823442

Matera, C., Verde, S. D., & Meringolo, P. (2015). I Like You More if I Think You Like Me: The Effect of Metastereotypes on Attitudes Toward People With Deafness. *Journal of Social Psychology*, *155*(4), 381–394. https://doi.org/10.1080/00224545.2015.1018857

Mattan, S., Shachar, B., Lüdecke, D., & Makowski, D. (2020). effectsize: Estimation of Effect Size Indices and Standardized Parameters. *Journal of Open Source Software*, *5*(56).

Mazziotta, A., Mummendey, A., & Wright, S. C. (2011). Vicarious intergroup contact effects: Applying social-cognitive theory to intergroup contact research (A. Eller, M. Hewstone, & J. F. Dovidio, Eds.). *Group Processes and Intergroup Relations*, *14*(2), 255–274. https://doi.org/10.1177/1368430210390533

Mazziotta, A., Rohmann, A., Wright, S. C., De Tezanos-Pinto, P., & Lutterbach, S. (2015). (How) does positive and negative extended cross-group contact predict direct cross-group contact and intergroup attitudes? *European Journal of Social Psychology*, *45*(5), 653–667. https://doi.org/10.1002/ejsp.2110

McClain, P. D., Carew, J. D., Walton, E., & Watts, C. S. (2009). Group Membership, Group Identity, and Group Consciousness: Measures of Racial Identity in American Politics? *https://doi.org/10.1146/annurev.polisci.10.072805.102452*, *12*, 471–485. https://doi.org/10.1146/ANNUREV.POLISCI.10.072805.102452

McDonald, R. I., & Crandall, C. S. (2015). Social norms and social influence. *Current Opinion in Behavioral Sciences*, *3*, 147–151. https://doi.org/10.1016/j.cobeha.2015.04.006

Meissner, C. A., & Brigham, J. C. (2001). Thirty Years of Investigating the Own-Race Bias in Memory for Faces: A Meta-Analytic Review. *Psychology, Public Policy, and Law*, *7*(1), 3–35. https://doi.org/10.1037/1076-8971.7.1.3

Meleady, R. (2021). "Nudging" intergroup contact: Normative social influences on intergroup contact engagement. *Group Processes and Intergroup Relations*. https://doi.org/10.1177/13684302211016047

Meleady, R., & Forder, L. (2019). When contact goes wrong: Negative intergroup contact promotes generalized outgroup avoidance. *Group Processes and Intergroup Relations*, *22*(5), 688–707. https://doi.org/10.1177/1368430218761568

Meleady, R., Seger, C. R., & Vermue, M. (2017). Examining the role of positive and negative intergroup contact and anti-immigrant prejudice in Brexit. *British Journal of Social Psychology*, *56*(4), 799–808. https://doi.org/10.1111/bjso.12203

Méndez, E., Gómez, Á., & Tropp, L. R. (2007). When metaperceptions are affected by intergroup processes. *International Journal of Psychology and Psychological Therapy*, *7*(2), 237–250. http://www.redalyc.org/articulo.oa?id=56070208

Mervosh, S., Lu, D., & Swales, V. (2020). See Which States and Cities Have Told Residents to Stay at Home. *The New York Times*. https://www.nytimes.com/interactive/2020/us/coronavirus-stay-at-home-order.html

Moore-Berg, S. L., Ankori-Karlinsky, L. O., Hameiri, B., & Bruneau, E. (2020a). Exaggerated meta-perceptions predict intergroup hostility between American political partisans. *Proceedings of the National Academy of Sciences of the United States of America*, *117*(26), 14864–14872. https://doi.org/10.1073/pnas.2001263117

Moore-Berg, S. L., Hameiri, B., & Bruneau, E. (2020b, August). The prime psychological suspects of toxic political polarization. https://doi.org/10.1016/j.cobeha.2020.05.001

Munniksma, A., Stark, T. H., Verkuyten, M., Flache, A., & Veenstra, R. (2013). Extended intergroup friendships within social settings: The moderating role of initial outgroup attitudes. *Group Processes and Intergroup Relations*, *16*(6), 752–770. https://doi.org/10.1177/1368430213486207

Mutz, D. C., & Goldman, S. K. (2010). Mass media. In J. F. Dovidio, M. Hewstone, P. Glick, & V. M. Esses (Eds.), *The sage handbook of prejudice, stereotyping and discrimination* (pp. 241–258). https://doi.org/10.4135/9781446200919.n15

Nadler, A., & Saguy, T. (2004). Reconciliation Between Nations: Overcoming Emotional Deterrents to Ending Conflicts Between Groups Reconciliation Between Nations 2. *The psychology of diplomacy*, *1*(1), 29–46. https://www.academia.edu/download/31873961/NadlerReconciliationBetweenNations.pdf

Newman, B., Merolla, J. L., Shah, S., Lemi, D. C., Collingwood, L., & Ramakrishnan, S. K. (2021). The Trump Effect: An Experimental Investigation of the Emboldening Effect of Racially Inflammatory Elite Communication. *British Journal of Political Science*, *51*(3), 1138–1159. https://doi.org/10.1017/S0007123419000590

Obaidi, M. (2019). "They Think We Are a Threat to Their Culture": Meta-Cultural Threat Fuels Willingness and Endorsement of Extremist Violence against the Cultural Outgroup. *International Journal of Conflict and Violence*, *12*(0), 1–13. https://doi.org/10.4119/UNIBI/ijcv.647

O'Brien, T. C., Leidner, B., & Tropp, L. R. (2018). Are they for us or against us? How intergroup metaperceptions shape foreign policy attitudes. *Group Processes and Intergroup Relations*, *21*(6), 941–961. https://doi.org/10.1177/1368430216684645

O'Donnell, A. W., Friehs, M. T., Bracegirdle, C., Zúñiga, C., Watt, S. E., & Barlow, F. K. (2021). Technological and analytical advancements in intergroup contact research. *Journal of Social Issues*, (February), 1–26. https://doi.org/10.1111/josi.12424

Ofosu, E. K., Chambers, M. K., Chen, J. M., & Hehman, E. (2019). Same-sex marriage legalization associated with reduced implicit and explicit antigay bias. *Proceedings of the National Academy of Sciences of the United States of America*, *116*(18), 8846–8851. https://doi.org/10.1073/pnas.1806000116

Paajanen, P., Seppälä, T., Stevenson, C., Riikonen, R., & Finell, E. (2023). Keeping apart on the playground: Construction of informal segregation on public play-

grounds in multiethnic neighborhoods. *Social Psychology Quarterly*, *86*(1), 53–73. https://doi.org/10.1177/01902725221116632

Paluck, E. L. (2009). Reducing Intergroup Prejudice and Conflict Using the Media: A Field Experiment in Rwanda. *Journal of Personality and Social Psychology*, *96*(3), 574–587. https://doi.org/10.1037/a0011989

Paluck, E. L., Green, S. A., & Green, D. P. (2019). The contact hypothesis re-evaluated. *Behavioural Public Policy*, *3*(2), 129–158. https://doi.org/10.24433/CO.f152260c-bebb-4157-a640-44579452b4e4.v4

Paluck, E. L., Porat, R., Clark, C. S., & Green, D. P. (2021, January). Prejudice Reduction: Progress and Challenges. https://doi.org/10.1146/annurev-psych-071620-030619

Paolini, S., Harwood, J., Hewstone, M., & Neumann, D. L. (2018). Seeking and avoiding intergroup contact: Future frontiers of research on building social integration. *Social and Personality Psychology Compass*, *12*(12). https://doi.org/10.1111/spc3.12422

Paolini, S., Hewstone, M., Cairns, E., & Voci, A. (2004). Effects of direct and indirect cross-group friendships on judgments of catholics and protestants in northern ireland: The mediating role of an anxiety-reduction mechanism. *Personality and Social Psychology Bulletin*, *30*(6), 770–786. https://doi.org/10.1177/0146167203262848

Paolini, S., White, F. A., Tropp, L. R., Turner, R. N., Page-Gould, E., Barlow, F. K., & Gómez, Á. (2021). Intergroup contact research in the 21st century: Lessons learned and forward progress if we remain open. *Journal of Social Issues*, (February), 1–27. https://doi.org/10.1111/josi.12427

Paolini, S., Wright, S. C., Dys-Steenbergen, O., & Favara, I. (2016). Self-expansion and intergroup contact: Expectancies and motives to self-expand lead to greater interest in outgroup contact and more positive intergroup relations. *Journal of Social Issues*, *72*(3), 450–471.

Park, S., Kryston, K., Eden, A., Park, S., Kryston, K., & Eden, A. (2020). Psychology of Popular Media Enjoyment of In-Group Versus Out-Group Films.

Paterson, J. L., Turner, R. N., & Hodson, G. (2019). Receptivity to dating and marriage across the religious divide in Northern Ireland: The role of intergroup contact. *Journal of Applied Social Psychology*, *49*(9), 575–584. https://doi.org/10.1111/jasp.12617

Pauketat, J. V., Mackie, D. M., & Tausch, N. (2020). Group-based meta-emotion and emotion responses to intergroup threat. *British Journal of Social Psychology*, *59*(2), 494–521. https://doi.org/10.1111/bjso.12364

Pavetich, M., & Stathi, S. (2021). Investigating antecedents of Islamophobia: The role of perceived control over terrorism, threat, meta-dehumanization, and dehumanization. *Journal of Community and Applied Social Psychology*, casp.2512. https://doi.org/10.1002/casp.2512

Pazzanese, C. (2021). Democrats and Republicans live in partisan bubbles, study finds. https://news.harvard.edu/gazette/story/2021/03/democrats-and-republicans-live-in-partisan-bubbles-study-finds/

Pettigrew, T., Tropp, L., Wagner, U., of, O. C. .-. I. j., & 2011, u. (2011). Recent advances in intergroup contact theory. *International Journal of Intercultural Relations*, *35*(3), 271–280. https://www.sciencedirect.com/science/article/pii/S0147176711000332

Pettigrew, T. F. (1997). Personality and social structure: Social psychological contributions. In *Handbook of personality psychology* (pp. 417–438). Elsevier.

Pettigrew, T. F., & Hewstone, M. (2017). The Single Factor Fallacy: Implications of Missing Critical Variables from an Analysis of Intergroup Contact Theory. *Social Issues and Policy Review*, *11*(1), 8–37. https://doi.org/10.1111/sipr.12026

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, *90*(5), 751–783. https://doi.org/10.1037/0022-3514.90.5.751

Pettigrew, T. F., & Tropp, L. R. (2008). How does intergroup contact reduce prejudice? Meta-analytic tests of three mediators. *European Journal of Social Psychology*, *38*(6), 922–934. https://doi.org/10.1002/ejsp.504

Pfaff, K. G., Plümper, T., & Neumayer, E. (2023). Polarized Politics: Protest Against COVID-19 Containment Policies in the USA. *Political Science Quarterly*, *138*(1), 23–46. https://doi.org/10.1093/PSQUAR/QQAC002

Police shootings database 2015-2023: Search by race, age, department. (2022). https://www.washingtonpost.com/graphics/investigations/police-shootings-database/

Pratto, F., Sidanius, J., Stallworth, L. M., & Malle, B. F. (1994). Social dominance orientation: A personality variable predicting social and political attitudes. *Journal of personality and social psychology*, *67*(4), 741.

Pratto, F., & Stewart, A. L. (2020). Power dynamics in intergroup relations. https://doi.org/10.1016/j.copsyc.2019.10.006

Preacher, K. J., Zhang, Z., & Zyphur, M. J. (2011). Alternative methods for assessing mediation in multilevel data: The advantages of multilevel sem. *Structural equation modeling*, *18*(2), 161–182.

Putra, I. E., & Wagner, W. (2017). Prejudice in interreligious context : The role of metaprejudice and majority – minority status. *Journal of Community & Applied Social Psychology*, *27*(August 2015), 226–239. https://doi.org/10.1002/casp.2305

Quesnel, M. S. (2020, August). *The Content, Valence, and Outcomes of Ethnic Minority Group Members' Interminority Meta-Stereotypes* (tech. rep.). https://mspace.lib.umanitoba.ca/xmlui/handle/1993/35002

R Core Team. (2022). R: A Language and Environment for Statistical Computing. https://www.R-project.org/

Racism, Inequality, and Health Care for African Americans. (n.d.). https://tcf.org/content/report/racism-inequality-health-care-african-americans/

Ramlall, I. (2017). *Applied Structural Equation Modelling for Researchers and Practioners: Using R and Stata for Behavioural Research*. Emerald Group Publishing Limited.

Rios Morrison, K., & Ybarra, O. (2009). Symbolic threat and social dominance among liberals and conservatives: SDO reflects conformity to political values. *European Journal of Social Psychology*, *39*(6), 1039–1052. https://doi.org/10.1002/EJSP.606

Roberts, M. (2021). Support bubbles: How do they work and who is in yours? *BBC News*. https://www.bbc.co.uk/news/health-52637354

Roblain, A., Hanioti, M., Paulis, E., Van Haute, E., & Green, E. G. (2020). The social network of solidarity with migrants: The role of perceived injunctive norms on intergroup helping behaviors. *European Journal of Social Psychology*, *50*(6), 1306–1317. https://doi.org/10.1002/ejsp.2700

Rohrer, J. M., Hünermund, P., Arslan, R. C., & Elson, M. (2021). That'sa lot to PROCESS! Pitfalls of popular path models. https://pure.mpg.de/rest/items/item_3283851/component/file_3283871/content

Ron, Y., Solomon, J., Halperin, E., & Saguy, T. (2017). Willingness to engage in intergroup contact: A multilevel approach. *Peace and Conflict*, *23*(3), 210–218. https://doi.org/10.1037/pac0000204

Rosenthal, L., & Levy, S. R. (2012). The relation between polyculturalism and intergroup attitudes among racially and ethnically diverse adults. *Cultural Diversity and Ethnic Minority Psychology*, *18*(1), 1.

Ross, J. (2016). A majority of Americans — white and black — agree that race relations are bad and getting worse. https://www.washingtonpost.com/

news/the-fix/wp/2016/07/18/a-majority-of-americans-white-and-black-agree-that-race-relations-are-bad-getting-worse/

Rosseel, Y. (2012). lavaan : An R Package for Structural Equation. *48*(2).

Saad, L. (2020). U.S. Perceptions of White-Black Relations Sink to New Low. https://news.gallup.com/poll/318851/perceptions-white-black-relations-sink-new-low.aspx

Saguy, T., & Chernyak-Hai, L. (2012). Intergroup contact can undermine disadvantaged group members' attributions to discrimination. *Journal of Experimental Social Psychology*, *48*(3), 714–720. https://doi.org/10.1016/j.jesp.2012.01.003

Saguy, T., Dovidio, J. F., & Pratto, F. (2008). Beyond contact: Intergroup contact in the context of power relations. *Personality and Social Psychology Bulletin*, *34*(3), 432–445. https://doi.org/10.1177/0146167207311200

Schiappa, E., Gregg, P. B., & Hewes, D. E. (2005). The parasocial contact hypothesis. *Communication Monographs*, *72*(1), 92–115. https://doi.org/10.1080/0363775052000342544

Schlüter, E., Ullrich, J., Glenz, A., & Schmidt, P. (2018). From segregation to intergroup contact and back: Using experiments and simulation to understand the bidirectional link. *European Journal of Social Psychology*, *48*(1), 17–32. https://doi.org/10.1002/ejsp.2284

Seger, C. R., Banerji, I., Park, S. H., Smith, E. R., & Mackie, D. M. (2017). Specific emotions as mediators of the effect of intergroup contact on prejudice: findings across multiple participant and target groups. *Cognition and Emotion*, *31*(5), 923–936. https://doi.org/10.1080/02699931.2016.1182893

Seger, C., Smith, E., Social, D. M. .-. J. o. E., & 2009, u. (2009). Subtle activation of a social categorization triggers group-level emotions. *Journal of Experimental Social Psychology*. https://www.sciencedirect.com/science/article/pii/S0022103108002424

Selvanathan, H. P., Techakesari, P., Tropp, L. R., & Barlow, F. K. (2018). Whites for racial justice: How contact with black americans predicts support for collective action among white americans. *Group Processes & Intergroup Relations*, *21*(6), 893–912.

Sengupta, N. K., Reimer, N. K., Sibley, C. G., & Barlow, F. K. (2023). Does intergroup contact foster solidarity with the disadvantaged? a longitudinal analysis across 7 years. *American Psychologist*.

Sharp, M., Testing, M. H. .-., Psychometrics, u., Applied, M. i., & 2010, u. (2010). Impact of context effects on attitudes and contact: Evidence of the validity of self-reports of intergroup contact. *tpmap.org*. http://www.tpmap.org/wp-content/uploads/2014/11/17.1.1.pdf

Smith, C. J., Dupré, K. E., McEvoy, A., & Kenny, S. (2021). Community perceptions and pro-environmental behavior: The mediating roles of social norms and climate change risk. *Canadian Journal of Behavioural Science / Revue canadienne des sciences du comportement*, *53*(2), 200–210. https://doi.org/10.1037/cbs0000229

Soper, D. S. (2019). A-priori sample size for structural equation models. Free Statistics Calculators. http://www.danielsoper.com/statcalc

Spencer, S. J., Logel, C., & Davies, P. G. (2016). Stereotype Threat. *https://doi.org/10.1146/annurev-psych-073115-103235*, *67*, 415–437. https://doi.org/10.1146/ANNUREV-PSYCH-073115-103235

Stathi, S., Di Bernardo, G. A., Vezzali, L., Pendleton, S., & Tropp, L. R. (2020). Do they want contact with us? The role of intergroup contact meta-perceptions on positive contact and attitudes. *Journal of Community and Applied Social Psychology*, 1–19. https://doi.org/10.1002/casp.2452

Staub, E., Pearlman, L. A., & Miller, V. (2003). Healing the roots of genocide in rwanda. *Peace Review*, *15*(3), 287–294.

Stephan, W. G., & Stephan, C. W. (1985). Intergroup Anxiety. *Journal of Social Issues*, *41*(3), 157–175. https://doi.org/10.1111/j.1540-4560.1985.tb01134.x

Stephan, W. G., Ybarra, O., & Rios Morrison, K. (2015). Intergroup theory. *Handbook of prejudice*, 255–278.

Stevenson, C., Turner, R., & Costa, S. (2021). "welcome to our neighbourhood": Collective confidence in contact facilitates successful mixing in residential settings. *Group Processes & Intergroup Relations*, *24*(8), 1448–1466.

Stürmer, S., & Benbow, A. E. (2017). Psychological foundations of xenophilia: Understanding and measuring the motivational functions of exploratory cross-cultural contact. *Personality and Social Psychology Bulletin*, *43*(11), 1487–1502.

Stürmer, S., Benbow, A. E., Siem, B., Barth, M., Bodansky, A. N., & Lotz-Schmitt, K. (2013). Psychological foundations of xenophilia: The role of major personality traits in predicting favorable attitudes toward cross-cultural contact and exploration. *Journal of Personality and Social Psychology*, *105*(5), 832.

Swart, H., Hewstone, M., Christ, O., & Voci, A. (2011). Affective mediators of intergroup contact: A three-wave longitudinal study in South Africa. *Journal of Personality and Social Psychology*, *101*(6), 1221–1238. https://doi.org/10.1037/a0024450

Tajfel, H. (1972). La categorisation sociale. In S. Moscovici (Ed.), *Introduction a la psychologie sociale* (pp. 385–426).

Tajfel, H. (1974). Social identity and intergroup behaviour. *Social Science Information*, *13*(2), 65–93. https://doi.org/10.1177/053901847401300204

Tankard, M. E., & Paluck, E. L. (2016). Norm perception as a vehicle for social change. *Social Issues and Policy Review*, *10*(1), 181–211.

Tankard, M. E., & Paluck, E. L. (2017). The Effect of a Supreme Court Decision Regarding Gay Marriage on Social Norms and Personal Attitudes. *Psychological Science*, *28*(9), 1334–1344. https://doi.org/10.1177/0956797617709594

The death of George Floyd and the Black Lives Matter movement. (2022). https://www.bbc.co.uk/teach/school-radio/assemblies-ks1-ks2-george-floyd-death-and-black-lives-matter-movement/zxcvn9q

Tinsley, H. E., & Tinsley, D. J. (1987). Uses of factor analysis in counseling psychology research. *Journal of counseling psychology*, *34*(4), 414.

Tredoux, C., Dixon, J., Underwood, S., Nunez, D., & Finchilescu, G. (2005). Preserving spatial and temporal dimensions in observational data of segregation. *South African Journal of Psychology*, *35*(3), 412–432. https://doi.org/10.1177/008124630503500302

Tropp, L. R., O'Brien, T. C., & Migacheva, K. (2014). How Peer Norms of Inclusion and Exclusion Predict Children's Interest in Cross-Ethnic Friendships. *Journal of Social Issues*, *70*(1), 151–166. https://doi.org/10.1111/josi.12052

Tsai, J. Y., Phua, J., Pan, S., & Yang, C. C. (2020). Intergroup contact, COVID-19 news consumption, and the moderating role of digital media trust on prejudice toward asians in the United States: Cross-sectional study. *Journal of Medical Internet Research*, *22*(9). https://doi.org/10.2196/22767

Turner, R. N., & Cameron, L. (2016). Confidence in Contact: A New Perspective on Promoting Cross-Group Friendship Among Children and Adolescents. *Social Issues and Policy Review*, *10*(1), 212–246. https://doi.org/10.1111/sipr.12023

Turner, R. N., Hewstone, M., Voci, A., & Vonofakou, C. (2008). A Test of the Extended Intergroup Contact Hypothesis: The Mediating Role of Intergroup Anxiety, Perceived Ingroup and Outgroup Norms, and Inclusion of the Outgroup in the Self. *Journal of Personality and Social Psychology*, *95*(4), 843–860. https://doi.org/10.1037/a0011434

Turner, R. N., Hodson, G., & Dhont, K. (2020). The role of individual differences in understanding and enhancing intergroup contact. *Social and Personality Psychology Compass*, *14*(6). https://doi.org/10.1111/spc3.12533

Turner, R. N., West, K., & Christie, Z. (2013). Out-group trust, intergroup anxiety, and out-group attitude as mediators of the effect of imagined intergroup contact on intergroup behavioral tendencies. *Journal of Applied Social Psychology*, *43*(SUPPL.2), 196–205. https://doi.org/10.1111/jasp.12019

van Bommel, G., Thijs, J., & Miklikowska, M. (2020). Parallel empathy and group attitudes in late childhood: The role of perceived peer group attitudes. *Journal of Social Psychology*. https://doi.org/10.1080/00224545.2020.1840326

van Leeuwen, E., & Täuber, S. (2012). Outgroup Helping as a Tool to Communicate Ingroup Warmth. *Personality and Social Psychology Bulletin*, *38*(6), 772–783. https://doi.org/10.1177/0146167211436253

Vauclair, C. M., Lima, M. L., Abrams, D., Swift, H. J., & Bratt, C. (2016). What do older people think that others think of them, and does it matter? The role of meta-perceptions and social norms in the prediction of perceived age discrimination. *Psychology and Aging*, *31*(7), 699–710. https://doi.org/10.1037/pag0000125

Vázquez, A., Yzerbyt, V., Dovidio, J. F., & Gómez, Á. (2017). How we think they see us? Valence and difficulty of retrieval as moderators of the effect of meta-stereotype activation on intergroup orientations. *International Journal of Psychology*, *52*, 26–34. https://doi.org/10.1002/ijop.12260

Vermue, M. (2019). Remembering the past , experiencing the present , and predicting the future : Social-cognitive perspectives on intergroup contact. (January).

Vesely, S., & Klöckner, C. A. (2020). Social Desirability in Environmental Psychology Research: Three Meta-Analyses. *Frontiers in Psychology*, *11*. https://doi.org/10.3389/FPSYG.2020.01395/FULL

Vezzali, L. (2017). Valence matters: Positive meta-stereotypes and interethnic interactions. *Journal of Social Psychology*, *157*(2), 247–261. https://doi.org/10.1080/00224545.2016.1208140

Vezzali, L., Di Bernardo, G. A., Stathi, S., Visintin, E. P., & Hewstone, M. (2019). Using intercultural videos of direct contact to implement vicarious contact: A school-based intervention that improves intergroup attitudes. *Group Processes and Intergroup Relations*, *22*(7), 1059–1076. https://doi.org/10.1177/1368430218809885

Vezzali, L., & Stathi, S. (2020, November). *Using Intergroup Contact to Fight Prejudice and Negative Attitudes*. Routledge. https://doi.org/10.4324/9781351136341

Vezzali, L., Stathi, S., Giovannini, D., Capozza, D., & Trifiletti, E. (2015a). The greatest magic of Harry Potter: Reducing prejudice. *Journal of Applied Social Psychology*, *45*(2), 105–121. https://doi.org/10.1111/jasp.12279

Vezzali, L., Stathi, S., Giovannini, D., Capozza, D., & Visintin, E. P. (2015b). 'And the best essay is.': Extended contact and cross-group friendships at school. *British Journal of Social Psychology*, *54*(4), 601–615. https://doi.org/10.1111/bjso.12110

Visintin, E. P., Voci, A., Pagotto, L., & Hewstone, M. (2017). Direct, extended, and mass-mediated contact with immigrants in Italy: their associations with emotions, prejudice, and humanity perceptions. *Journal of Applied Social Psychology*, *47*(4), 175–194. https://doi.org/10.1111/jasp.12423

Voci, A., Hewstone, M., Swart, H., & Veneziani, C. A. (2015). Refining the association between intergroup contact and intergroup forgiveness in Northern Ireland: Type of contact, prior conflict experience, and group identification. *Group Processes and Intergroup Relations*, *18*(5), 589–608. https://doi.org/10.1177/1368430215577001

Vollhardt, J. R., & Bilali, R. (2015). The Role of Inclusive and Exclusive Victim Consciousness in Predicting Intergroup Attitudes: Findings from Rwanda, Burundi, and DRC. *Political Psychology*, *36*(5), 489–506. https://doi.org/10.1111/pops.12174

Vorauer, J. D. (2003). Dominant group members in intergroup interaction: Safety or vulnerability in numbers? *Personality and Social Psychology Bulletin*, *29*(4), 498–511. https://doi.org/10.1177/0146167202250917

Vorauer, J. D., Hunter, A. J., Main, K. J., & Roy, S. A. (2000). Meta-stereotype activation: Evidence from indirect measures for specific evaluative concerns experienced by members of dominant groups in intergroup interaction. *Journal of Personality and Social Psychology*, *78*(4), 690–707. https://doi.org/10.1037/0022-3514.78.4.690

Vorauer, J. D., Main, K. J., & O'Connell, G. B. (1998). How do individuals expect to be viewed by members of lower status groups? Content and implications of meta-stereotypes. *Journal of personality and social psychology*, *75*(4), 917–937. https://doi.org/10.1037/0022-3514.75.4.917

Wang, C., Huang, F., & Vezzali, L. (2019). A test of positive and negative extended intergroup contact in a Chinese minority with perceived group norms and intergroup anxiety as mediators. *Journal of Applied Social Psychology*, *49*(7), 399–408. https://doi.org/10.1111/jasp.12532

Watson, G. (1947). Action for unity. https://psycnet.apa.org/record/1947-01593-000

West, K., Greenland, K., & van Laar, C. (2021). Implicit racism, colour blindness, and narrow definitions of discrimination: Why some White people prefer 'All Lives Matter' to 'Black Lives Matter'. *British Journal of Social Psychology*, *60*(4), 1136–1153. https://doi.org/10.1111/BJSO.12458

Westwood, S. J., Iyengar, S., Walgrave, S., Leonisio, R., Miller, L., & Strijbis, O. (2018). The tie that divides: Cross-national evidence of the primacy of partyism. *European Journal of Political Research*, *57*(2), 333–354. https://doi.org/10.1111/1475-6765.12228

White, F. A., & Abu-Rayya, H. M. (2012). A dual identity-electronic contact (DIEC) experiment promoting short- and long-term intergroup harmony. *Journal of*

Experimental Social Psychology, *48*(3), 597–608. https://doi.org/10.1016/j.jesp.2012.01.007

White, F. A., Borinca, I., Vezzali, L., Reynolds, K. J., Blomster Lyshol, J. K., Verrelli, S., & Falomir-Pichastor, J. M. (2020). Beyond direct contact: The theoretical and societal relevance of indirect contact for improving intergroup relations. *Journal of Social Issues*, josi.12400. https://doi.org/10.1111/josi.12400

White, K. M. (2014). The salience of skin tone: effects on the exercise of police enforcement authority. *http://dx.doi.org/10.1080/01419870.2014.952752*, *38*(6), 993–1010. https://doi.org/10.1080/01419870.2014.952752

Who was George Floyd and what happened to Derek Chauvin? (2021). https://www.bbc.co.uk/news/world-us-canada-56270334

Wölfer, R., & Hewstone, M. (2017). Beyond the dyadic perspective: 10 Reasons for using social network analysis in intergroup contact research. *British Journal of Social Psychology*, *56*(3), 609–617. https://doi.org/10.1111/bjso.12195

Wright, S. C., Aron, A., McLaughlin-Volpe, T., & Ropp, S. A. (1997). The Extended Contact Effect: Knowledge of Cross-Group Friendships and Prejudice. *Journal of Personality and Social Psychology*, *73*(1), 73–90. https://doi.org/10.1037/0022-3514.73.1.73

Wright, S. C., & Lubensky, M. E. (2013). The struggle for social equality: Collective action versus prejudice reduction. In *Intergroup misunderstandings* (pp. 291–310). Psychology Press.

Yablon, Y. B. (2012). Are we preaching to the converted ? The role of motivation in understanding the contribution of intergroup encounters. *0201*. https://doi.org/10.1080/17400201.2012.679253

Yentes, R. D. (2020). *In Search of Best Practices for the Identification and Removal of Careless Responders* [Doctoral dissertation].

Zhou, S. (2020). *Intergroup contact theory in a nutshell: A meta-meta-analytic examination of intergroup contact theory and the contact space*. University of Toronto (Canada).

Zhou, S., Page-Gould, E., Aron, A., Moyer, A., & Hewstone, M. (2019). The Extended Contact Hypothesis: A Meta-Analysis on 20 Years of Research. *Personality and Social Psychology Review*, *23*(2), 132–160. https://doi.org/10.1177/1088868318762647

Appendices

Appendix A
Ethics application, consent forms and debriefs

Ethics application form study 1

UNIVERSITY OF EAST ANGLIA
SCHOOL OF PSYCHOLOGY
RESEARCH ETHICS APPLICATION

Section I: Project Details

Project reference:	2019-1034-001875
Project Title: This will be the title through review.(max 100 chars)	Perceptions of willingness to engage in intergroup contact and contact mechanisms.
SONA Title: This will be the exact title you use on SONA.(max 100 chars)	Perceptions of social interaction
Project Funder:	UEA
R project code:	N/A
Project officer:	N/A
Can you confirm that financial gain will not be indicated in the title of your advert (if SONA credits are being awarded)	yes
Start Date:	01-02-2020
End Date:	01-02-2020
Brief Summary of the Project (not more than 100 words):	The project aims at collecting data on people's perceptions of willingness to engage in intergroup contact and its mechanisms. The results will be used to conduct new experiments in which we will manipulate some element of intergroup interactions to see if it influences people's willingness to engage in and experience of contact. Here, we will look at people's own experiences of intergroup interactions as well as their point of view on different contact scenarios. Finally, we will present contact-relevant factors and measure mechanisms presented in the literature.
If a standard research protocol with existing ethics approval is being used please give the title of the protocol and the reference number.	N/A
Has your study already received a Research Ethics Review, or has been reviewed in full by another institution because it is part of a larger study? If yes, you are required to upload the approval documentation as an appendix.	no

Section II: Applicant Details

Name of applicant:	Agatha Bataille
Name or researcher who is gathering the data:	Agatha Bataille
Supervisor:	Charlie Seger
School:	Psychology

Email address:	A.Bataille@uea.ac.uk
Telephone number:	07308154191

Section III: For Taught Students Only (UG and PG)

Course:	N/A
Department:	N/A
Module:	N/A
Module number:	N/A
Module leader's name:	N/A

Section IV: Research Checklist

Will the study involve recruitment of patients through the NHS or Social Care, or the use of NHS patient data or premises and/or equipment? **All research involving patient data must be reviewed by the NHS NRES** (Recruitment of NHS staff or use of NHS data/equipment can go through the psychology ethics committee.)	no
Does the study involve participants age 16 or over who are unable to give informed consent (e.g. people with learning disabilities: see Mental Capacity Act 2005)? **All research that falls under the auspices of the MCA must be reviewed by NHS NRES**	no
Will tissue samples (including blood) be obtained from participants? **All research involving human tissue must be reviewed by the UEA Faculty of Medicine and Health Sciences Research Ethics Committee**	no
Would you like to continue and complete the full ethics approval checklist and review even though you have answered YES to some of the above?	no

If you have answered 'Yes' to any of the questions above you will need to submit your research for ethical approval to the appropriate external body. See the UEA Research Governance Guidance for Researchers and Supervisors **Send the completed and signed Checklist to the Deputy Chair for registration.**

Once ethical approval is granted by the external body, a copy of the approval should be sent to your School Research Ethics Officer (SCI) or Faculty Research Ethics Administrator for their records.

Section IV: Research Checklist

Does the research involve animals?	no
Does the research involve **vulnerable groups** (children, those with cognitive impairment, or those in unequal relationships e.g. your own students in class)?	no
Will the study require the **co-operation of a gatekeeper/subject panel** for initial access to the groups or individuals to be recruited (e.g. students at school, members of self-help group, residents of Nursing home, prisoners)?	no
Will it be necessary for participants to take part in the study without their knowledge and consent at the time (e.g. **covert observation** of people in non-public places)?	no
Will **deception** be used?	no
Will the study involve **discussion of sensitive topics** (e.g. sexual activity, drug use, ethnicity, political behaviour) or involve elite interviews?	yes
Will the research involve access to records of **personal/ sensitive/ confidential information**, or involve commercial confidentiality/national security?	no
Are drugs, placebos or other **substances** (e.g. food substances, vitamins) to be administered to the study participants or will the study **involve invasive, intrusive or potentially harmful procedures** of any kind?	no
Is **pain or more than mild discomfort** likely to result from the study?	no
Could the study induce **psychological stress or anxiety** or cause harm or negative consequences beyond the risks encountered in normal life?	no

Will the study **involve prolonged or repetitive testing** beyond a regular laboratory experiment?	no
Will the research **involve administrative or secure data that requires permission from the appropriate authorities** before use?	no
Is there a possibility that the **safety of the researcher may be in question** (e.g. in international research: locally employed research assistants)?	no
Does the research **involve members of the public in a research capacity** (that is, the participants themselves will be carrying out research)?	no
Will the **research take place outside the UK?**	no
Will the research expose respondents to the **internet** or other visual/vocal methods where **respondents may be identified?**	yes
Will research involve the sharing of data or confidential information beyond the initial consent given (e.g. **secondary use of data**)?	no
Will **financial inducements** (other than reasonable expenses and compensation for time as in regular laboratory experiments) be offered to participants?	no
Will your research involve investigation of or engagement with terrorist or violent extremist groups? Please provide a full explanation if the answer is yes.	no
Does your research have environmental implications? Please refer to the University's Research Ethics Guidance Note: Research with a Potential Impact on the Environment for further details.	no
Is there potential for your research to affect cultural objects?	no
Does the study involve the use of a clinical or non-clinical scale, questionnaire or inventory which has specific copyright	

permissions, reproduction or distribution restrictions or training requirements?	

If you have answered Yes to ANY of questions on this page, please explain your YES-answers briefly:(max 300 words)

Participants will have to consider intergroup contact situations (e.g. personal experience of contact with a person of another ethnicity, here European or Asian). This is common in social psychological research and should not cause any distress or unease beyond what participants experience in their daily life. The study will be conducted online but identification will not be possible.

The issues highlighted above should be considered carefully when completing the full ethical review form which follows.

Section IV: Research Checklist

Is this a project funded by a research council such as the ESRC? Y (full committee)/N – see below	no
Is this a project which is highly sensitive ethically? Y (full committee)/N see below.	no
Is this a staff or postgraduate research project? Y (2 reviewers)/N – see below.	yes
Is this an undergraduate project on a potentially vulnerable population (including participants under 18 years old)? Y (2 reviewers)/N – see below	no
Is this an undergraduate project which has some sensitive issues and the views of a second reviewer would be beneficial? Y (2 reviewers)/N – see below	no
Is this an undergraduate project in which none of the above apply? Y (1 reviewer)	no

Methods

Background and issues, aims, design (e.g.interview, experimental, observational, survey), research questions / hypotheses (2-300 words):	We are interested in people's perception of willingness to engage in intergroup contact, and the mechanisms behind this engagement. The study will be exploratory in nature, however, we expect it will be useful for future publications. The results will be used to conduct new experiments in which we will manipulate some elements in order to determine how they influence people's willingness to engage in contact and their experience of it. Despite the fact that hundreds of research studies support the fact that intergroup contact is one of the best ways to improve intergroup relationships and that

	opportunities for intergroup contact have highly increased with the development of the media, intergroup conflict is still common. And one of the reasons for this limited societal effect of contact is simply that people tend to avoid engaging themselves in such interactions. This is why, it is important to understand the factors that can influence one's willingness to engage in contact. In this study, we will have people recall a previous contact interaction, and we will prompt them with a variety of open-ended questions. Then, participants will read and respond to two contact scenarios, in which they will rate their perception of the character's motivations and feelings. We will manipulate the ethicity of the people involved in the scenarios, and whether a request for help as accepted or refused. This study has experimental and surveys components.
How many participants do you intend to include in the study?(numeric value only please)	200
What are the characteristics of the participants? (Please list all inclusion and exclusion criteria)(max 300 words)	Participants will aged 18+, and UEA Psychology students enrolled on SONA. We may only use data from participants who are either European or East-Asian.
What is the process of recruitment, how will participants be approached and invited to take part?(max 300 words)	The study will be shown on SONA. Participants logging into the system will see the advertisement and will have the opportunity to sign up for a timeslot. SONA advertisement: Title: Perception of social interaction In this study, you will have to answer some question about yourself and your perception of social interaction situations. This should take about 15minutes. (1 credit).
Will external organisations/people's consent be required?	no
If Yes please detail:(max 300 words)	N/A
Is the planned sample size achievable and appropriate for meaningful data analysis?	yes
Is this research taking place via the internet/post?	yes
If the study is conducted via the internet have you included safeguards to ensure that participants are not vulnerable or underage?	yes
What are those safeguards?(max 300 words)	People who are under age 18 are not allowed to participate through SONA. Additionally, the survey will have tick boxes to confirm that the participant is over 18.
If data is being gathered via the internet are you gathering IP addresses?	no
If yes are you ensuring that participants explicitly consent to this?	yes
Are you using the standard School of Psychology guidelines for participant reimbursement (credits for SONA or payment for funded studies)?	yes
If not why not?(max 300 words)	N/A
Is your recruitment process non-	yes

coercive and is it clear there are no consequences for non-participation?
Please outline what the participants will experience including what measures, materials or apparatus will you use? (Please give details and include copies of questionnaires, interview schedules, experimental stimuli etc. Be mindful that not all research requires asking personal and sensitive questions and this should be considered when deciding on measures)(max 300 words)

Ethics decision

Decision 1..

Revision: 0
Decision: minor revision
Date: 07-02-2020

Dear Agatha Bataille,

Thank you for your application to the committee. I have received detailed reviews from 2 reviewers.

Reviewer 1:

This is an interesting and well-motivated study. I have a few brief questions and recommendations.

First, participants will discuss potentially sensitive issues regarding intergroup contact. While unlikely, it is conceivable that participants might experience negative emotions related to intergroup anxiety as a result of their recollections of contact (or the hypothetical scenarios they are asked to evaluate). Especially for participants from marginalized/stigmatized backgrounds, it is possible that recollecting instances of intergroup contact might bring up memories of personal discrimination or ostracism. Are there any resources towards which participants might be directed in the debriefing? Since the study is anonymous, participant well-being cannot be assessed by the researcher directly. Therefore, links to resources to help cope with possible adverse emotional responses could be useful.

Second, participants might include personally identifying information in their open-ended responses. You should probably establish a procedure for filtering and deleting such information.

Third, you mention that the targets in the contact scenarios will be matched to the participant's gender. What will you do in the event that the participant identifies as non-binary?

Fourth, you mention that the face stimuli will come from a standardized database. What factors are controlled for by this database? Probably factors such as trustworthiness, dominance, etc. should be included and matched carefully. This is not really an issue related to ethics, but could influence in the interpretation of the results.

There were some spelling/grammar errors in the questionnaires. Please revise these carefully to maximize comprehensibility for participants.

Other than the above, I see no issues with the study.

Reviewer 2:

The start and end date are the same, please confirm that dates with the ethics panel.

You have clicked yes for 'Will the research expose respondents to the internet or other visual/vocal methods where respondents may be identified?' Think it should be no as responses are recorded anonymously.

After careful consideration the application can be approved as long as the concern(s) above are addressed to the supervisor's satisfaction.

Approval by the School of Psychology Ethics Committee should not be taken as evidence that your study is compliant with GDPR and the Data Protection Act 2018. If you need guidance on how to make your study GDPR compliant, please contact your institution's Data Protection Officer.

Kind regards,

Ethics committee chair

Decision 2 - ammendement..

Revision: 2
Decision: minor revision
Date: 12-03-2021

Dear Agatha Bataille,

Thank you for your application to the committee.

After careful consideration the application can be approved as long as the concern(s) below are addressed to the supervisor's satisfaction.

The consent form, information sheet, and debrief must be changed explaining the new method of reward. You must clearly explain in these documents why you are recording emails and how they will be handled and stored. no final consent must be given without this key information.

Approval by the School of Psychology Ethics Committee should not be taken as evidence that your study is compliant with GDPR and the Data Protection Act 2018. If you need guidance on how to make your study GDPR compliant, please contact your institution's Data Protection Officer.

Kind regards,

Ethics committee chair

Amendment:

After examination of our sample, it appears that only a very limited number of participants recruited via SONA are from East-Asian origins. However, as specified in our original application, it will be highly informative to recruit such a population. This will improve the strength of the results as well as help us make more sense of them.

To do so, we will need to recruit participants using other ways. The solution considered is advertising our survey to students through contacts in different Schools and INTO. We have tentative permission from a contact in INTO to forward an email on our behalf.

Participants will be proposed to take part in the study in exchange for entering a lottery. As specified in the guidelines, we will utilize a prize draw. One out of every 20 participants will receive a £20 gift card from Love2shop. This means that if we recruit 60 participants, we will give a total of three gift cards. As the study is being conducted online, it seems like the easiest solution. Participants will enter their email addresses on the last page of the questionnaire; it will be saved in a separate file from the rest of their data in order to maintain anonymity.

We are thus asking for ethics approval of this new way of recruiting and retributing participants. No changes to the questionnaire itself will be needed.

Thank you for your comprehension,

Sincerely,

Email text:

Subject: Research Participation Opportunity

Hi everyone,

My name is Agatha, I am a Ph.D. student in the School of Psychology working with Dr. Charles Seger. We are asking for your help to complete a survey in which you will provide some opinions about yourself, and also you will read and give your opinions on a couple of scenarios in which two people are interacting. We expect this survey will take 10-15 minutes to complete. As a thank-you, you will be entered into a prize draw for a £20 'Love to Shop' gift card. We will give at least one gift card for every 20 participants.

Participation is voluntary; you can withdraw at any time. This is for people aged 18 or older.

You can complete the survey at {link} – or you can email me for more information, a.bataille@uea.ac.uk.
Thank you!

Agatha Bataille

Ethics application form study 2, 3, and 4

UNIVERSITY OF EAST ANGLIA
SCHOOL OF PSYCHOLOGY
RESEARCH ETHICS APPLICATION

Section I: Project Details

Project reference:	2020-1034-001994
Project Title: This will be the title through review.(max 100 chars)	Understanding the effect of (meta-)perceptions in political intergroup context.
SONA Title: This will be the exact title you use on SONA.(max 100 chars)	N/A
Project Funder:	UEA
R project code:	N/A
Project officer:	N/A
Can you confirm that financial gain will not be indicated in the title of your advert (if SONA credits are being awarded)	yes
Start Date:	01-10-2020
End Date:	01-10-2021
Brief Summary of the Project (not more than 100 words):	This study aims at improving the understanding we have of the impact perceptions (e.g. meta-perception) can have on intergroup contact. If years of research highlight multiple moderators and mediators of the effect intergroup contact on prejudice reduction, evidence of the impact of social norms and meta-perceptions on the intergroup contact effect and on people's willingness to engage in it are still limited. We expect it will be useful for future publications. In this study, we will ask participants questions about themselves, their political opinion, their past and present intergroup contact habits and their perceptions (i.e. of social norms; meta-perceptions).
If a standard research protocol with existing ethics approval is being used please give the title of the protocol and the reference number.	N/A
Has your study already received a Research Ethics Review, or has been reviewed in full by another institution because it is part of a larger study? If yes, you are required to upload the approval documentation as an appendix.	no

Section II: Applicant Details

Name of applicant:	Agatha Bataille
Name or researcher who is gathering the data:	Agatha Bataille
Supervisor:	Charlie Seger

School:	Psychology
Email address:	A.Bataille@uea.ac.uk
Telephone number:	07308154191

Section III: For Taught Students Only (UG and PG)

Course:	N/A
Department:	N/A
Module:	N/A
Module number:	N/A
Module leader's name:	N/A

Section IV: Research Checklist

Will the study involve recruitment of patients through the NHS or Social Care, or the use of NHS patient data or premises and/or equipment? **All research involving patient data must be reviewed by the NHS NRES** (Recruitment of NHS staff or use of NHS data/equipment can go through the psychology ethics committee.)	no
Does the study involve participants age 16 or over who are unable to give informed consent (e.g. people with learning disabilities: see Mental Capacity Act 2005)? **All research that falls under the auspices of the MCA must be reviewed by NHS NRES**	no
Will tissue samples (including blood) be obtained from participants? **All research involving human tissue must be reviewed by the UEA Faculty of Medicine and Health Sciences Research Ethics Committee**	no
Would you like to continue and complete the full ethics approval checklist and review even though you have answered YES to some of the above?	no

If you have answered 'Yes' to any of the questions above you will need to submit your research for ethical approval to the appropriate external body. See the UEA Research Governance Guidance for Researchers and

Supervisors **Send the completed and signed Checklist to the Deputy Chair for registration.**

Once ethical approval is granted by the external body, a copy of the approval should be sent to your School Research Ethics Officer (SCI) or Faculty Research Ethics Administrator for their records.

Section IV: Research Checklist

Does the research involve animals?	no
Does the research involve **vulnerable groups** (children, those with cognitive impairment, or those in unequal relationships e.g. your own students in class)?	no
Will the study require the **co-operation of a gatekeeper/subject panel** for initial access to the groups or individuals to be recruited (e.g. students at school, members of self-help group, residents of Nursing home, prisoners)?	no
Will it be necessary for participants to take part in the study without their knowledge and consent at the time (e.g. **covert observation** of people in non-public places)?	no
Will **deception** be used?	no
Will the study involve **discussion of sensitive topics** (e.g. sexual activity, drug use, ethnicity, political behaviour) or involve elite interviews?	yes
Will the research involve access to records of **personal/ sensitive/ confidential information**, or involve commercial confidentiality/national security?	no
Are drugs, placebos or other **substances** (e.g. food substances, vitamins) to be administered to the study participants or will the study **involve invasive, intrusive or potentially harmful procedures** of any kind?	no
Is **pain or more than mild discomfort** likely to result from the study?	no
Could the study induce **psychological stress or anxiety** or cause harm or negative consequences beyond	no

the risks encountered in normal life?	
Will the study **involve prolonged or repetitive testing** beyond a regular laboratory experiment?	no
Will the research **involve administrative or secure data that requires permission from the appropriate authorities** before use?	no
Is there a possibility that the **safety of the researcher may be in question** (e.g. in international research: locally employed research assistants)?	no
Does the research **involve members of the public in a research capacity** (that is, the participants themselves will be carrying out research)?	no
Will the **research take place outside the UK?**	yes
Will the research expose respondents to the **internet** or other visual/vocal methods where **respondents may be identified?**	yes
Will research involve the sharing of data or confidential information beyond the initial consent given (e.g. **secondary use of data**)?	no
Will **financial inducements** (other than reasonable expenses and compensation for time as in regular laboratory experiments) be offered to participants?	no
Will your research involve investigation of or engagement with terrorist or violent extremist groups? Please provide a full explanation if the answer is yes.	no
Does your research have environmental implications? Please refer to the University's Research Ethics Guidance Note: Research with a Potential Impact on the Environment for further details.	no
Is there potential for your research to affect cultural objects?	no
Does the study involve the use of a clinical or non-clinical scale,	no

questionnaire or inventory which has specific copyright permissions, reproduction or distribution restrictions or training requirements?	

If you have answered Yes to ANY of questions on this page, please explain your YES-answers briefly:(max 300 words)

Whilst political behaviour is not directly addressed, we will discuss political opinions and past interactions with people in political groups. Participants will have to consider intergroup contact situations (e.g. personal experience of contact with a person of another political group) and to talk about their political opinion. This is common in social psychological research and should not cause any distress or unease beyond what participants experience in their daily life. The study will be conducted online but identification will not be possible. We will use American respondents via a platform such as Mechanical Turk or Prolific, both of which have been used by Dr Seger previously. The issues highlighted above should be considered carefully when completing the full ethical review form which follows.

The issues highlighted above should be considered carefully when completing the full ethical review form which follows.

Section IV: Research Checklist

Is this a project funded by a research council such as the ESRC? Y (full committee)/N – see below	no
Is this a project which is highly sensitive ethically? Y (full committee)/N see below.	no
Is this a staff or postgraduate research project? Y (2 reviewers)/N – see below.	yes
Is this an undergraduate project on a potentially vulnerable population (including participants under 18 years old)? Y (2 reviewers)/N – see below	no
Is this an undergraduate project which has some sensitive issues and the views of a second reviewer would be beneficial? Y (2 reviewers)/N – see below	no
Is this an undergraduate project in which none of the above apply? Y (1 reviewer)	no

Methods

Background and issues, aims, design (e.g.interview,	Intergroup contact (Allport, 1954) has long been shown to reduce prejudice between racial and ethnic groups. However, this paradigm has less frequently

experimental, observational, survey), research questions / hypotheses (2-300 words):	been applied to attitudinally-defined groups, such as political parties. Political hostility, particularly in the USA, is increasingly a problem. This study will examine how past intergroup contact influences attitudes and behaviours towards political outgroups. From our theoretical perspective, we particularly expect meta-perceptions - the beliefs ingroup members believe an outgroup has about the ingroup - to have an effect on attitudes and willingness to engage in future contact with people in the opposing group (e.g., Moore-Berg et al., 2020). Strength of these meta-perceptions are expected to be largely determined by group identification and past contact; the effect of meta-perceptions on attitudes and behavioural intentions may be mediated by intergroup emotions (Smith et al 2007). Results from this research will help us learn how intergroup contact influences broader political attitudes and may suggest potential pathways for defusing irrational hostility between political groups. This is a survey design. Questionnaire materials are in the appendix. No variables will be manipulated although comparisons will be made between Democrats and Republicans. American participants will complete this questionnaire via the Mechanical Turk platform in return for payment.
How many participants do you intend to include in the study?(numeric value only please)	500
What are the characteristics of the participants? (Please list all inclusion and exclusion criteria)(max 300 words)	Participants will be aged 18+ and American. People from all genders and ethnicities may participate. Participants may be excluded from analyses if they do not answer all the questions.
What is the process of recruitment, how will participants be approached and invited to take part?(max 300 words)	The study will be shown on MTurk. Participants logging into the system will see the advertisement and will have the opportunity to take part in the exchange of a retribution (XX$). This should take about 30minutes. Advertisement: Perceptions of Politics In this questionnaire study, you will complete some questions asking about your political attitudes and opinions in the run-up to the American election, and your experiences with Democrats or Republicans. There are no right or wrong answers.
Will external organisations/people's consent be required?	no
If Yes please detail:(max 300 words)	N/A
Is the planned sample size achievable and appropriate for meaningful data analysis?	yes
Is this research taking place via the internet/post?	yes
If the study is conducted via the internet have you included safeguards to ensure that participants are not vulnerable or underage?	yes
What are those safeguards?(max 300 words)	The survey will have tick boxes to confirm that the participant is over 18. Moreover, participants cannot sign up for Mechanical Turk if they are under age 18.
If data is being gathered via the internet are you gathering IP addresses?	no
If yes are you ensuring that participants explicitly consent to	yes

this?	
Are you using the standard School of Psychology guidelines for participant reimbursement (credits for SONA or payment for funded studies)?	yes
If not why not?(max 300 words)	N/A
Is your recruitment process non-coercive and is it clear there are no consequences for non-participation?	yes
Please outline what the participants will experience including what measures, materials or apparatus will you use? (Please give details and include copies of questionnaires, interview schedules, experimental stimuli etc. Be mindful that not all research requires asking personal and sensitive questions and this should be considered when deciding on measures)(max 300 words)	Please see appendix. Participants will be asked to answer a few questions about their profile, their political opinion, their intergroup contact habits with Democrats and Republicans and their perceptions of the political intergroup context. This includes questions on their attitudes, outgroup perception, ingroup and outgroup social norms perceptions and their meta-perceptions (i.e. how they think the outgroup view them). For each participant, the questions will concern their ingroup and outgroup [i.e. Democrats and Republicans, as applicable). See Appendix for questions examples. Finally, participants will read a small debrief with more information about the aims of the study and will be asked whether they want to withdraw their data.

Informed consent and briefing

Is informed consent to be obtained from participants?	yes
Will you append a copy of the invitation letter/advert?	yes
Will you append a copy of the participant information sheets?	yes
Is your participant information sheet based on the official template?	no
If not why not?(max 300 words)	As this is an online study, the “consent for questionnaires” template is being used and signed consent cannot be obtained. Therefore, there are not separate consent and information forms.
Will you append a copy of the consent form?	yes
Will participants be explicitly informed of what the researcher’s role/status is?	yes
Will participants be told of the use to which data will be put (e.g., research publications, teaching purposes, media publication)?	yes

Right of withdrawal

When is the last point of withdrawal?(max 300 words)	Participants can withdraw at any point throughout the study by simply stopping the completion of the survey. Additionally, at the end of the study, they will be asked if they would still want their data to be used. However, they are informed that they will not be able to withdraw their data due to the anonymous nature of the study after they complete the study and submitted their data.
Is this clear from your consent/participant information form?	yes
How will you deal with anonymity issues for late withdrawal (e.g. use of participant codes)?(max 300 words)	There is no late withdrawal in order to keep data anonymous.
Are participants given a genuine, unpressured opportunity to withdraw?	yes
If NO, explain why not:(max 300 words)	N/A

Debriefing

Will the participants be debriefed? (Please append verbal or written text)	yes
If YES, how will they be debriefed (e.g., verbally, debriefing sheet; give details or attach the debriefing information to this form) or if NO, why not?(max 300 words)	The written debriefing sheet will be shown to participants on the last step of the experiment.
Does the debrief offer Sources of Support where relevant?	yes
Does it offer an easily understandable lay explanation of the research?	yes
Does it contain contact details for the researcher and ethics committee?	yes
If the study is being completed via the internet remember participants may exit part way through without receiving the debrief - does the design and or initial consent information take this into account?	yes
Are you using the debrief template?	yes

Confidentiality

Will you meet the participants?	no

Will the participants sign anything?	no
Will IP addresses be collected?	no
If none of the above are answered 'yes' will the data be gathered anonymously?	yes
If NO, how will you protect the identity of your participants and ensure that any personal information you receive will be kept confidential?(max 300 words)	N/A
Will you remove identifying information from the data and, if necessary, replace it with ID numbers or pseudonyms?	yes
Will you store data securely (e.g., in a locked filing cabinet or password-protected electronic file)?	yes
Are you storing contact details such as email addresses separately to responses?	yes

Risk assessment

What inconveniences might participants experience?(max 300 words)	Participants will take time from their day, and the questions will be online so screen time is a factor however this is not a greater risk than they would otherwise face outside of the study.
What steps will you take to minimize these?(max 300 words)	The questionnaire will be kept short, participants can take breaks as and when they wish. Questions are no more sensitive than what they would be exposed to normally.
Will involvement in the research put participants at risk of physical or psychological harm, distress or discomfort greater than that encountered in their everyday lives?	no
If YES, describe the nature of the risk and the steps you will take to minimise it(max 300 words):	N/A
Will you complete the researcher safety checklist, and will you review the researcher safety checklist for each member of the research team (see appendix)? If the details of the research are not known at this time, then details from the checklist should be logged with the committee prior to collecting data.	no
Is a risk assessment necessary?	no
Does involvement in the	no

research put you at risk of physical or psychological harm, distress or discomfort greater than that encountered in your everyday life?	
If YES, describe the nature of the risk and the steps you will take to minimise it: (See Researcher Safety Policy).(max 300 words)	N/A

Other permissions and clearances

Is ethical clearance required from any other ethics committee?	no
If YES, please give the name and address of the organisation:	N/A
Has such ethical clearance been obtained yet? If YES, please attach a copy of the ethical approval letter	no

Please note that it is your responsibility to follow the University of East Anglia Research Ethics Policy, Principles and Procedures and any relevant academic or professional guidelines in the conduct of your study. **This includes providing appropriate information sheets and consent forms, following appropriate recruitment policies, and ensuring confidentiality in the storage and use of data.**

Any significant change in the question, design or conduct over the course of the research should be notified to the Research Ethics Committee and may require a new application for ethics approval.

Please enter your name and the date to confirm that you are the applicant and have read and understood the above:

Name:BATAILLE Agatha	Date:14-09-2020

Ethics decision study 2, 3, and 4

Decision and ammendements - study 2.

Decision:

Revision: 0
Decision: minor revision
Date: 12-10-2020

Dear Agatha Bataille,

Thank you for your application to the committee. I have received detailed reviews from 2 reviewers.

Reviewer 1:

Your application shows some good thought around some of the key ethical aspects of your project. There are a few things I would like to comment upon within your application.

Application form
1. A comment on style/clarity – be sure to read the summary of your project. This lacked a bit of clarity that further proofreading would have helped.
2. Section IV Checklist – you state yes to sensitive topics but no to risk of psychological stress or anxiety. It would be worth giving further thought to this, given the nature of the topic and how it may be increasingly sensitive in the run up to an election (and with quick paced changes and events occurring with the USA alongside this).
3. In addition to the point above, it would be good to see you consider steps you would take for potential stress or anxiety (you state there is a debrief, which there is, but what do participants do if the questionnaire has upset them? A link to a support service in the US on the debrief would cover this)
4. In the method you state that participants will receive money for participating – how much and why? I assume this is linked to the MTurk platform and what it does.
5. A note on the use of the internet/MTurk, but this may not be relevant given Charlie has used it before, what are you putting into place to ensure no IP addresses or identifying information is collected about participants via the internet?

Info/consent/questionnaire documents
1. Refer to yourself by name rather than 'the above researcher'.
2. Proofreading is also required on your information/consent form. This is impacting the clarity which in turn could confuse participants, this is an ethical issue because it must be clear and understood by them what they are agreeing to take part in. (an example is where the sentence ends mid sentence 'By answering questions that follow assumed you consent to…)
3. On your consent form make it clear that once the participant clicks submit their data can no longer be withdrawn from the study.
4. Make the roles of the research team clear on the information sheet (you do this on the debrief just not on the first information sheet for participants).
5. The consent tick boxes need to be broken down so participants can agree to each part of the question 1) I am over 18, 2) I understand my data will be anonymous and agree it can be used in research and publications, 3) I agree to take part in this study
6. Demographics – where participants tick 'other' do you want to gather information on who is included within the other group? (This is a general comment and not a request to change this)
7. For clarity, on the questionnaire write in full any organisations or groups and include acronyms after.
8. In connection with the point made earlier about sensitive subjects, consider whether you should include sources of support on the debrief.

A fascinating sounding project – best of luck with it.

Reviewer 2:

I had some minor questions recommendations, but the study is generally fine from an ethical standpoint.

How much are participants paid for MTurk participation? I didn't clearly see this in the application. Sorry if I missed it.

Data might conceivably be of interest to other researchers, so the researchers might consider planning how data might be anonymously shared. If the researchers might be interested in sharing data in this fashion, participants should be so informed in the consent materials.

Options for sexual orientation might include Lesbian and Gay as separate items (rather than the broader 'homosexual' label).

Job items might include ‘Student’ or educational options as a separate item.

Under Job2 ‘Health Care’ is listed twice. Jobs2 might also profitably include other professions, such as law/legal services, management, and technology.

Citizenship information may be sensitive for some participants. It might be preferable to ask if participants are entitled to vote in their place of residence.

As the Democratic Vice Presidential nominee, Kamala Harris might be included in the feeling thermometer.

Under ‘Past Contact Experiences’ it might be preferable to ask whether participants have friends/family form the opposed party, rather than simply ‘with different views’ (this might include third parties or heterogeneity within party). Also, what does ‘cross-cutting’ mean? Does it mean merely opposed views, or issues on which you and he/she might disagree?

“Queuing” is not common in American English. Consider an alternative expression like ‘waiting in line for the bus’.

What is the meaning or context for the ‘favouratism’ question? Note that the term is spelled ‘favoritism’ in American English.

Election question might ask whether voters have already voted, and how they plan to vote (e.g. in person, by mail, absentee, etc.)

The debriefing might include specific references to the academic literature informing the study.

The debriefing should probably not link to campaign websites for candidates. If such links are included, they should probably also include links to major third party candidate websites, to avoid any appearance of partiality in favor of Democrats/Republicans over other US parties.

After careful consideration the application can be approved as long as the concern(s) below are addressed to the supervisor’s satisfaction.

Approval by the School of Psychology Ethics Committee should not be taken as evidence that your study is compliant with GDPR and the Data Protection Act 2018. If you need guidance on how to make your study GDPR compliant, please contact your institution’s Data Protection Officer.

Kind regards,

Ethics committee chair

Decision and ammendements - study 3.

Decision:

Revision: 1
Decision: minor revision
Date: 12-03-2021

Dear Agatha Bataille,

Thank you for your application to the committee.

After careful consideration the amendment submitted can be approved by Chair's action as long as the concern(s) below are addressed to the supervisor's satisfaction.

The only concern is that participants should be informed that this is a follow up to a previous study.

Approval by the School of Psychology Ethics Committee should not be taken as evidence that your study is compliant with GDPR and the Data Protection Act 2018. If you need guidance on how to make your study GDPR compliant, please contact your institution's Data Protection Officer.

Kind regards,

Ethics committee chair

Amendment:

As specified in the original application, our aim is to get a better understanding of the effect of perception (i.e. Perception of social norms, the outgroup, and meta-perception) on people's willingness to engage in intergroup contact.

After consideration, we consider it useful to re-conduct this study a second time. According to the literature, and specifically supported by Crandall and al (2018) findings, the US election of November could represent a shift in people's perception in general, and social norms in particular. In their article, they found evidence that Donald Trump election in 2016 influences people's perception of social norms regarding the expression of prejudice. Consequently, we would like to obtain ethics approval to recruit again the same participants.

The recruitment process and the survey content will be the same to the exception of the following points:

The meta-perceptions and outgroup perception measures will be reduced. Instead of the 16 items used in the first part we will use a reduced version of the same scales elaborate by the original authors (Livingstone, Rodriguez, and Rothers, 2019). The following items will be kept: Intelligent - Unintelligent, hard working - lazy, highly skilled - unskilled, respectable - contemptible, moral - immoral, pleasant - unpleasant, friendly - hostile, honest - dishonest, peaceful - aggressive, warm - cold, positive - negative. Participants will be asked to rank the items on a 1 (positively- anchored scale end) to 7 (negatively-anchored scale end). Items cover four dimensions: competence; warmth/sociability, morality, and overall positivity.
The questions relative to attitudes toward various groups measure with feeling thermometers will be removed.
The social norms questions will be updated as followed: To measure prescriptive social norms, the same two items from Gomez and Tropp (2011) were used to access perception of intergroup contact social norms of both the ingroup and the outgroup. In addition, we adapted the item from Crandall and al (2018) to measure prejudice social norms. Participants were asked to indicate on a 7-point scale "how much is it acceptable for [Ingroup] to express negative feelings toward [Outgroup]?" from 1 (not ok) to 7 (perfectly ok). Further, to measure descriptive norms we asked participants how much they think ingroup and outgroup members engage in the behaviours mentioned above. For example, how much do you think [ingroup members] express negative feelings toward [outgroup members]?
Regarding the perception of prejudice: originally participants were asked "To what extent do you believe the average [INGROUP] views [OUTGROUP]s to be prejudiced against [INGROUP]?". We want to add the following items: "To what extent do you believe the average [OUTGROUP]s to be prejudiced against [INGROUP]?", "To what extent do you believe the average [OUTGROUP]s to be prejudiced against [YOU]?".
The measure of media and social environment. In addition to previous measures regarding intergroup contact and social norms, a few items regarding participants social and media habits were added. More precisely, participants were asked, "how much do you watch or listen to the following sources? how much do you patronise the following

companies? 1-not at all to 7-very often". The items cover various aspect of media habits, including tv networks, website, and social media, tv shows as well as companies they frequent. Each aspect is represented by one or two items targeting Democrats and one or two items targeting Republicans. Items are:
TV networks:
Fox News [REPUBLICAN]
OANN (One America News Network) [REPUBLICAN]
NPR [DEMOCRAT]
CNN [DEMOCRAT]
Websites and social media
Washington Post [DEMOCRAT]
Breitbart [REPUBLICAN]
Conservative Social Media Accounts? if yes, give an example [REPUBLICAN]
Left-leaning Social Media Accounts? if yes, give an example [DEMOCRAT]
Companies
Hobby Lobby [REPUBLICAN]
Chick-fil-A [REPUBLICAN]
Starbucks [DEMOCRAT]
Whole Foods [DEMOCRAT]
Tv Shows
Modern Fam [DEMOCRAT]
Orange is the New Black [DEMOCRAT]
Duck Dynasty [REPUBLICAN]
NCIS [REPUBLICAN]

As in the original study, participants will be recruited via Mturk and paid $0.50 for a 10min survey.

This study will be available (shown on the platform) only to those who completed time 1. We will be able to link time 1 and time 2 data using the anonymous MTurk Worker id.

If not enough participants of the first wave decide to take part, we will consider opening the study to additional participants, in order to examine the broad effects of media exposure, still allowing for broad comparisons between samples.

Overall, the length of the study should not exceed the length of the first part. While a few items were added they should not expose the participants to any additional distress. As explained in the original application, while participants will have to consider intergroup contact situations (e.g., personal experience of contact with a person of another political group) and to talk about their political opinion. This is common in social psychological research and should not cause any distress or unease beyond what participants experience in their daily life.

We formulate the following hypotheses regarding the added items:

We expect meta-perception, perception of the outgroup, of policies and perception of ingroup and outgroup social norms to be different at time 1 (i.e. Before the election) and time 2 (i.e. a few months after). There are competing hypothesis as to the direction of the change. Indeed, we might expect reduced negativity due to the end of the election campaign and Joe Biden being officially named President of the United-States. However, the event of the Capitol in January lets us think that our population might see the outgroup as an increased threat, particularly amongst those highly identified with the ingroup.

At this point, we are making no assumptions regarding the differences between prescriptive and descriptive social norms.

We have added a section on how much people engage with typically Democratic and Republican businesses and types of media.
Media and business frequentation should relate to intergroup contact measures as well as intergroup contact social norms measures. We suspect that the degree to which someone's behavior in these domains is ingroup oriented will impact the effect of perceptions on behavioral intention, active avoidance, and the desire to interact, in addition established effects of ingroup identification, prototypicality and evaluative concerns.

Decision and ammendements - study 4.

Decision:

Revision: 2
Decision: minor revision
Date: 21-07-2021

Dear Agatha Bataille,

Thank you for your application to the committee. I have received detailed reviews from 1 reviewer.

Reviewer 1:

Just a couple of things to consider:

1. You need to proofread the 'Contact Intention Measure' items.
2. On the information sheet you state this is a second study, is this study a third study? This needs to be clear.
3. On the debrief you refer to 'opposite' groups. This could be considered problematic terminology and participants might not view individuals of a different sexuality or ethnicity as 'opposite'. Consider rephrasing this to 'different groups' or something similar.
4. Provide a more comprehensive list of appropriate support services on your debrief.
5. What will happen to responses that are not 'black/white' or 'gay/straight' - are you discarding this data? It was not clear in your amendment materials what exactly would be the inclusion criteria for participants in your groupings. This is an ethical issue because we should avoid gathering data that we don't intend to use.

Best of luck with it

After careful consideration the application can be approved as long as the concern(s) below are addressed to the supervisor's satisfaction.

Approval by the School of Psychology Ethics Committee should not be taken as evidence that your study is compliant with GDPR and the Data Protection Act 2018. If you need guidance on how to make your study GDPR compliant, please contact your institution's Data Protection Officer.

Kind regards,

Ethics committee chair

Amendment:

Dear Mrs or Mr,

Please find below an amendment proposition regarding this study.

Thank you in advance for your time,

Kindly,
Agatha Bataille

As specified in the original application, our aim is to get a better understanding of the effect of perception (i.e. Perception of social norms, the outgroup and meta-perception) on people's willingness to engage in intergroup contact.

After consideration, we find it useful to re-conduct this study with different groups. Specifically, while the first set of studies were focused on attitudinal groups (Democrats and Republicans), the new studies will focus on Black/White and Gay/Straight group members. The idea is to run two survey one for each group combination. This will give us information on two new group context (i.e. Race - group membership salient and Sexual orientation - group membership non-salient).

Please find in the document attached with the application a file presenting the measures participants will be presented, as well as the invitation letter and informed consent/debrief (i.e. Study5Appdx.pdf). The document also include a longer description of this study including a brief summary, the background and the procedure and the major changed conducted.

As in the original study, participants will be recruited online, either via Mturk or Prolific and paid a minimum of

$0.50 for a 10min survey.
Overall, the length of the study should not exceed the length of the first part. While a few items were added they should not expose the participants to any additional distress. As explained in the original application, while participants will have to consider intergroup contact situations (e.g. personal experience of contact with a person of another political group) and to talk about their political opinion. This is common in social psychological research and should not cause any distress or unease beyond what participants experience in their daily life.

A few variables were updated and some were removed as follow:
The recruitment process and the survey content will be the same to the exception of the following points:

• The meta-perceptions and outgroup perception measures will be reduced. Instead of the 16 or 11 items used in the first part, we will use a shorter version of the same scales created by the original authors (Livingstone, Rodriguez and Rothers, 2019). The following items will be kept competent-incompetent, moral-immoral, positive-negative, warm-cold. Participants will be asked to rank the items on a 1 (positively- anchored scale end) to 7 (negatively-anchored scale end). Items will cover four dimensions: competence; warmth/sociability, morality and overall positivity. In addition, two new measure were added. First, a 2 items measure of contact openness meta-perception using similar items to the contact social norm measure (for symmetry). Second, a 1 item measure of support of outgroup rights and protection meta-perception (or outgroup perception) will also be included.

• Social norms: The same prejudice and contact social norms measures as in the first US election will be used. In addition, a new 1 items measure of perception of social norms regarding rights and support of the outgroup will be included.

• Laws and media: A few items regarding people's perception of the legal and media context were added. The items are as follow:
○ The legal system provides sufficient protection against discrimination towards the [OUTGROUP].
○ The legal system provides sufficient/appropriate response to offences and hate crimes
○ The legal system provides sufficient/appropriate response to offences and hate crimes
§ Not at all ----------about right ----------too much
○ There is a large enough number of [OUTGROUP member] represented in the [News media/General media/Social media]
□ Much less ---------- about right ----------much more
○ [OUTGROUP] members are correctly represented in the [News media/General media/Social media]
□ Much less negative ---------- about right ----------much more positive

• Future contact: A new measure of contact intention was added. This measure was build to gather information on which situation and with who, specifically, does people intend to get involved or not in the future. Items include:
○ How interest will you be in having outgroup members as [Friend/partner/co-worker/supervisor/employee in a business I frequent/ a member of my sports team or social club].
○ How interested would you be in the following actions?
§ Face to face interactions with outgroup members.
§ Online contact with outgroup members (e.g. through comment or private message on the social media)
§ Watching media content about the outgroup (e.g. tv show with members of the outgroup as main characters, following outgroup members on the social media)
§ Taking part in collective actions supporting rights and protection of the outgroup.
○ All from: not at all interested ---------- very interested.

• Other minor change: These changes were made to reduce the survey length.
○ Emotion: The emotion scale will be reduced to the following items.
○ Engagement in contact: this measure was removed.
○ Feeling thermometers: this measure was removed.
○ Policies opinion: this measure was removed.

Ethics application form study 5a and 5b pilot

Ethics ETH2122-1392 : Miss Agatha Bataille

Date Created	25 Feb 2022
Date Submitted	10 Mar 2022
Date of last resubmission	29 Mar 2022
Date forwarded to committee	10 Mar 2022
Researcher	Miss Agatha Bataille
Category	PGR
Supervisor	Dr Charles Seger
Faculty	Faculty of Social Sciences
Current status	Approved after amendments made

Ethics application

Applicant and research team

Principal Applicant

Name of Principal Applicant
Miss Agatha Bataille

UEA account
qhf19quu@uea.ac.uk

School/Department
School of Psychology

Category
PGR

Primary Supervisor

Name of Primary Supervisor
Dr Charles Seger

Primary Supervisor's school/department
School of Psychology

Project details

Project title
Contextual perception impacts on intergroup contact seeking behavior: an experimental test.

SONA title
Understanding people's engagement in news reading.

Project start date

01 Apr 2022

Project end date
31 Jul 2022

Describe the scope and aims of the project in language understandable by a non-technical audience. Include any other relevant background which will allow the reviewers to contextualise the research.
While hundreds of studies support the beneficial effect of positive contact, interest in understanding the mechanisms underlying engagement in intergroup contact is fairly new. In previous correlational studies, we determined that contextual perceptions (i.e. Perceptions of social norms, of the outgroup, and meta-perceptions) impact intergroup contact-seeking behaviors intention. Considering those results, we would like to conduct two novel studies which will experimentally manipulate those variables and see their impact on actual intergroup contact behaviors. More precisely, we aim to look at the different impacts of positive vs negative perceptions on both actual and intended intergroup contact. Additionally, as in our previous studies, data will be collected in two different intergroup dynamics, namely Democrats vs Republicans and Blacks vs Whites in the United States. Collecting data from those two populations allows us to understand whether the effect works in a similar or unique way depending on the general intergroup context. Consequently, both studies will be identical with the exception of the group targeted. Study 1 will look at the impact of contextual perception on intergroup contact-seeking behaviors in Democrats and Republicans while study 2 will look at the same variables but in Blacks and Whites.

Provide a brief explanation of the research design (e.g. interview, experimental, observational, survey), questions, methodology, and data gathered/analysis. If relevant, include what the participants will be expected to do/experience.
Studies will be held online (Qualtrics + Prolific). It will be experimental, and deception will be used. Participants will believe taking part in a study on people's engagement with tweets relating to news and that they will have to interact briefly with someone online.

Studies flow:

- Demographic: to divide participants in our target groups: Democrats and Republicans (Study1) and Black and White (Study 2).

- Tweet: Participants will read a tweet relating to a fake news article describing either the positive (condition 1) or negative (condition 2) meta-perception and perception of the outgroup of their own group (e.g. Democrats) and their outgroup (e.g. Republicans). In the control condition, the tweet will give informations about tourism in the US. Participants will be randomly assigned to 1 of the 3 conditions (50 participants by group*conditions). They will also answer some filler questions about the tweet they just read.

- Interaction: Participants will be led to believe they will interact with someone regarding the tweet they have just read. A profile of a potential ingroup (condition A) or outgroup (condition B) partner will be given to them. It will contain the name, age, group membership, hobbies, and gender (matching participants). Participants will decide whether they want to enter in contact with this partner or be randomly assigned a new one.

- Measures: After telling them the connection failed, we will ask them to fill in some measures (e.g, meta-perception) and some suspicion control measures.

- Debrief: real purpose of the experiment + last withdrawal.

Design:

Tweet (positive vs negative vs control) * Partner(ingroup vs outgroup) * Group (1: Democrats vs Republicans or 2: Black vs White).

Pilot: to test material. Same as a main study but no deception (participants will be informed they will test material) + no additional measures (e.g. meta-perception).

Detail how any adverse events arising in the course of the project will be reported in a timely manner.
No such event should occur, but if it does it will be responded to in a timely manner by the supervisor involved in this project to the appropriate ethics committee.

Will you also be applying for Health Research Authority approval (HRA)?
No

Indicate if you are applying for approval for an experiment to be conducted in the School of Economics' Laboratory for Economic and Decision Research (LEDR).
No

Are you relying on any of the School's standard research protocols/operating procedures. If yes, which ones?
No

Is the project?:
none of the options listed

Does the project have external funding administered through the University's Research and Innovation Services (RIN)?
No

Will the research take place outside of the UK?
No

Will any part of the project be carried out under the auspices of an external organisation, or involve collaboration between institutions?
No

Do you require or have you already gained approval from an ethics review body external to UEA?
No

Does this new project relate to a project which already has ethics approval from UEA?

Yes

If yes, provide the name of the UEA ethics approval body.
PSY S-REC (School of Psychology Research Ethics Subcommittee)

If yes, provide the date of the ethics approval.
12 Oct 2020

If yes, provide the UEA ethics application reference number, if allocated.
2020-1034-001994

Research categories

Will the project involve human participants?
Yes

Will the project involve the use of live animals?
No

Will the project have the potential to affect the environment?
No

Will the project have the potential to affect culturally valuable, significant or sensitive objects or practices?
No

Will the project involve security sensitive research?
No

Human participants - selection and recruitment

How many Participant Groups are there who will receive tailored participant information?:
One

Name of Participant Group 1.
Main group

How will the participants be selected/recruited?
Using Prolific. A total of 100 people for the pilot study and 600 participants for the main study. This is achievable given the large poll provided by Prolific.

In terms of UEA participants only, will you be advertising the opportunity to take part in this project to?:
None of the above (i.e. UEA's Student Insight Review Group (SIRG) does not need to be informed)

What are the characteristics of the participants?

Participants will be recruited via the Prolific platform. The following criterion will apply, as filtered through prolific:

• 18+ years old

• Leave in the United-States

• Democrat or Republican / Black or White

• Has not participated in our previous study on prolific.

• English is their first language.

• Agree to take part in the study using deception.

Will the project require the cooperation of a gatekeeper for initial access to the individuals/groups to be recruited?
No

Is there any sense in which participants might be 'obliged' to participate?
No

Will the project involve vulnerable groups?
No

Will payment or any other incentive be made to any participant?
Yes

If yes, provide details.
Participants will be compensated ($1.10) for their participation in our 10 to 15min experiment based on Prolific requirement (min. £5/h). Fund for the experiment will be requested from 2 sources: 1) RTSG of the Ph.D. student conducting the research; 2) Ph.D. supervisor's research fund.

Only anonymized data will be collected.

Are you using the standard PSY Guidelines for Participant Reimbursement (credits for SONA or payment for funded studies?)
Yes

How and when will participants receive this material?
The study will be advertised online through Prolific. See Appendix for the detailed advert.

Include any other ethical considerations regarding participation.
There is no other ethical consideration regarding participation, any participants fitting the pre-screening will be able to take part in the experiment and compensate if they complete it, independently of whether they express their desire to withdraw their data or not.

Human participants - consent options

By which method(s) will consent to participate in the research be obtained?:
Online Participant Information and Consent

Human participants - information and consent

Participant Information and Consent

Will opt out consent for participation in the research be used?
No

You can generate a Participant Information Text and Consent Form for this application by completing information in the Participant Information Text and Consent Form Generator tab. Alternatively you can upload your Participant Information Text and Participant Consent Form which you have already prepared. Confirm below:
Upload prepared Participant Information Text and Consent Form.

Upload the Participant Information Text and Consent Form.

Enter participant group number and name.
Group 1: Main group

When will participants receive the participant information and consent request?
The consent will be uploaded at the beginning of the survey. with questions integrated into qualtrics.

How will you record a participant's decision to take part in the research?
this will be collected as any other questions of the survey. As questions will be integrated into qualtrics.

Human participants - method

Which data collection methods will be used in the research?:
Anonymous questionnaire

If your research involves any of the methods (including Other) listed above, upload supporting materials.
How have your characteristics, or those of the participants influenced the design of the study or how the research is experienced by participants?
I believe that neither my characteristics or those of the participants have influenced the design. Measures and materials are based on standard measures and material for this field of study.

Will the project involve transcripts?
No

Will you be capturing photographs or video footage (digital assets) of individuals taken for University business?
No

Is this research using visual/vocal methods where respondents may be identified?
No

Will it be necessary for participants to take part in the study without their knowledge and consent at the time?
No

Will deception or incomplete disclosure be used?
Yes

If yes, provide details including the reason for its use.
Deception will be used. Participants will first be led to believe they are taking part in an experiment regarding people engagement with news reading. We will manipulate whether people read about positive or negative between-group relationships, presenting this as a news article; this has been created by the researchers. They will also be let to believe that they will have to interact (online) with another person for a maximum of 5 minutes. However, the real aim is to understand how different perceptions can lead to engagement or avoidance in intergroup contact. Additionally, participants will not interact with another person. The real purpose of the experiment is hidden to the participants to prevent their knowledge of the aim of the experiment to impact their answer and behaviour.

Will the participants be debriefed?
Yes

If yes, how will they be debriefed and what information will be provided?
A written debriefing will be used. Participants will be informed of the deception and of the real aim of the experiment. After what they will be given the opportunity to withdraw their data without it affecting their compensation.

If yes, upload a copy of the debrief information.
Will substances be administered to the participants?
No

Will involvement in the project result in, or the risk of, discomfort, physical harm, psychological harm or intrusive procedures?
No

Will the project involve prolonged or repetitive testing?
No

Will the project involve potentially sensitive topics?
Yes

If yes, provide details.
Participants will have to read information regarding indicating either positive or negative feelings between the groups involved. Additionally, data about their ethnicity and political affiliation will be collected. This is common in social psychological research and should not cause any distress or unease beyond what participants experience in their daily life.

Will the project involve elite interviews?
No

Will the project involve any incitement to, encouragement of, or participation, in an illegal act (by participant or researcher)?
No

Will the research involve an investigation of people engaged in or supporting activities that compromise computer security or other activities that may normally be considered harmful or unlawful?
No

Does the research involve members of the public in participatory research where they are actively involved in undertaking research tasks?
No

Does the research offer advice or guidance to people?
No

Is the research intended to benefit the participants, third parties or the local community?
Yes

Provide an explanation.
This study is supposed to provide information regarding intergroup contact seeking behavior. The result could be used to develop intervention to promote intergroup contact (known as a way to reduce prejudice and discrimination). However, there is no direct benefits to the participants, third parties or local community.

What procedures are in place for monitoring the research with respect to ethical compliance?
Any ethical breaches will be addressed as soon as possible and reported to the supervisor who will be in charge of reporting any ethical breaches that might occur.

Does the study involve the use of a clinical or non-clinical scale, questionnaire or inventory which has specific copyright permissions, reproduction or distribution restrictions or training requirements?
No

Include any other ethical considerations regarding data collection methods.
There is no other ethical considerations regarding data collection methods.

Health and safety - participants

Is there a possibility that the health and safety of any of the participants in this project including a support person (e.g. a care giver, school teaching assistant) may be in question?
No

Health and safety - researcher(s)

Is there a possibility that the health and safety of any of the researcher(s) and that of any other people (as distinct from any participants) impacted by this project including research assistants/translators may be in question?
No

Upload your Researcher Safety Checklist.

Risk assessment

Are there hazards associated with undertaking this project where a formal risk assessment will be required?
No

Data management

Will the project involve personal data (including pseudonymised data) not in the public domain?
No

Will you be using secondary personal data not in the public domain?
No

Will any personal data collected be processed by another organisation(s)?
No

Will the project rely on data supplied by others (internal or external sources)?
No

Will the project involve access to records of sensitive/confidential information?
No

Will the project involve access to confidential business data?
No

Will the project involve secure data that requires permission from the appropriate authorities before use?
No

Will you be using publicly available data from the internet for your study?
No

Will the research data collected in this study be deposited in a repository to allow it to be made available for scholarly and educational purposes?
Yes

Provide details.

This data might be made available on the Open Science Framework website or on the journal website after publication.

Who will have access to the data during and after the project?
During the project, only the research team will have access to the data. After the project, the data might be made available to people reviewing the manuscript developed from this research as well as any other person requesting them for research purpose. Additionally, they might be made public on the Open Science Framework website.

Where/how do you intend to store the data during and after the project?
During the project, the anonymized data will be stored on onedrive and on the computer of the research team member. After the project, the data will still be held on the computer and onedrive of the research team member (password protected). They might also be made available on the Open Science Framework website or on the journal website after publication. As data are anonymised, there will be no way to link them to participants.

How will you ensure the secure storage of the data during and after the project?
On a password protected computer and password-protected onedrive. There will be no way to link individual participants to their data.

How long will research data be stored after the study has ended?
10 years

How long will research data be accessible after the study has ended?
10 years

How are you intending to destroy the project data when it is no longer required?
When project data are no longer required, they will be deleted.

Ethics decision study 5a and 5b pilot

Decision - study 5a and 5b.

University of East Anglia
Norwich Research Park
Norwich. NR4 7TJ

Email: ethicsapproval@uea.ac.uk
Web: www.uea.ac.uk

Study title: Contextual perception impacts on intergroup contact seeking behavior: an experimental test.

Application ID: ETH2122-1392

Dear Agatha,

Your application was considered on 3rd April 2022 by the PSY S-REC (School of Psychology Research Ethics Subcommittee).

The decision is: **approved with minor amendments**.

Much clearer this time around, thank you for your work on it.

The only point that I would raise is that, as far as I know, if participants are in the USA, then the answer to "Will the research take place outside of the UK?" should be "Yes".

I do not see a reason for the student to have to resubmit the application if changes in the study are made to the satisfaction of the supervisor

You are therefore able to start your project subject to any other necessary approvals being given.

This approval will expire on **31st July 2022**.

Please note that your project is granted ethics approval only for the length of time identified above. Any extension to a project must obtain ethics approval by the PSY S-REC (School of Psychology Research Ethics Subcommittee) before continuing.

It is a requirement of this ethics approval that you should report any adverse events which occur during your project to the PSY S-REC (School of Psychology Research Ethics Subcommittee) as soon as possible. An adverse event is one which was not anticipated in the research design, and which could potentially cause risk or harm to the participants or the researcher, or which reveals potential risks in the treatment under evaluation. For research involving animals, it may be the unintended death of an animal after trapping or carrying out a procedure.

Any amendments to your submitted project in terms of design, sample, data collection, focus etc. should be notified to the PSY S-REC (School of Psychology Research Ethics Subcommittee) in advance to ensure ethical compliance. If the amendments are substantial a new application may be required.

Approval by the PSY S-REC (School of Psychology Research Ethics Subcommittee) should not be taken as evidence that your study is compliant with the UK General Data Protection Regulation (UK GDPR) and the Data Protection Act 2018. If you need guidance on how to make your study UK GDPR compliant, please contact the UEA Data Protection Officer (dataprotection@uea.ac.uk).

I would like to wish you every success with your project.

On behalf of the PSY S-REC (School of Psychology Research Ethics Subcommittee)

Yours sincerely,

Thomas Sambrook

Ethics application form study 5a and 5b

Ethics ETH2122-2131 (Significant amendments): Miss Agatha Bataille

Date Created	06 Jun 2022
Date Submitted	06 Jun 2022
Date forwarded to committee	09 Jun 2022
Researcher	Miss Agatha Bataille
Category	PGR
Supervisor	Dr Charles Seger
Faculty	Faculty of Social Sciences
Current status	Approved

Ethics application

Amendment type

Type of amendment
Change to project end date
Change to research protocol

Is this amendment related to Covid-19?
No

Change project end date

Original project start date
01 Apr 2022

Original project end date
31 Jul 2022

Revised project end date
30 Sept 2022

Explain why your anticipated project end date has changed.
The project's anticipated end date has changed due to protocol changes engaged after the results of the pilot study.

Attach any documentation which relates to the changes described.

Change research protocol

Describe changes

Fully describe any changes and upload revised documentation if there are wording changes.
Following the pilot study, we decided to make the following change to the protocol:

- The cover story will mention testing material for a new study.

- Participants will be asked to choose between 4 profiles (two ingroups and two outgroups) instead of one profile (either ingroup or outgroup).

- Suspicion/evaluation of material question will be re-organised to follow the logic of the cover story.

- Some exclusion criteria have been precise (see Appendix - demographic).

- Instructions for each task were re-worded to follow the cover story and presentation logic of the study.

The rest of the study and main protocol aspects rest unchanged (e.g. no change of the tweet content).

The rest of the study

Attach any documentation which relates to the changes described.

Ethics decision study 5a and 5b

Decision - study 5a and 5b.

University of East Anglia

University of East Anglia
Norwich Research Park
Norwich. NR4 7TJ

Email: ethicsapproval@uea.ac.uk
Web: www.uea.ac.uk

Study title: Contextual perception impacts on intergroup contact seeking behavior: an experimental test.

Application ID: ETH2122-2131 (significant amendments)

Dear Agatha,

Your application was considered on 12th June 2022 by the PSY S-REC (School of Psychology Research Ethics Subcommittee).

The decision is: **approved**.

You are therefore able to start your project subject to any other necessary approvals being given.

This approval will expire on **30th September 2022**.

Please note that your project is granted ethics approval only for the length of time identified above. Any extension to a project must obtain ethics approval by the PSY S-REC (School of Psychology Research Ethics Subcommittee) before continuing.

It is a requirement of this ethics approval that you should report any adverse events which occur during your project to the PSY S-REC (School of Psychology Research Ethics Subcommittee) as soon as possible. An adverse event is one which was not anticipated in the research design, and which could potentially cause risk or harm to the participants or the researcher, or which reveals potential risks in the treatment under evaluation. For research involving animals, it may be the unintended death of an animal after trapping or carrying out a procedure.

Any amendments to your submitted project in terms of design, sample, data collection, focus etc. should be notified to the PSY S-REC (School of Psychology Research Ethics Subcommittee) in advance to ensure ethical compliance. If the amendments are substantial a new application may be required.

Approval by the PSY S-REC (School of Psychology Research Ethics Subcommittee) should not be taken as evidence that your study is compliant with the UK General Data Protection Regulation (UK GDPR) and the Data Protection Act 2018. If you need guidance on how to make your study UK GDPR compliant, please contact the UEA Data Protection Officer (dataprotection@uea.ac.uk).

I would like to wish you every success with your project.

On behalf of the PSY S-REC (School of Psychology Research Ethics Subcommittee)

Yours sincerely,

Guglielmo Calvini

Ammendements - study 5b and 5b.

University of East Anglia
Norwich Research Park
Norwich. NR4 7TJ

Email: ethicsapproval@uea.ac.uk
Web: www.uea.ac.uk

Study title: Contextual perception impacts on intergroup contact seeking behavior: an experimental test.

Application ID: ETH2122-1392

Dear Agatha,

Your application was considered on 28th March 2022 by the PSY S-REC (School of Psychology Research Ethics Subcommittee).

The decision is: **amendments required**.

Your application will require some changes to be made before it can be approved.

Please address the following points:

Reviewer 1:

Very interesting study, though the explanation is somewhat unclear at some points.

The section "Describe the scope and aims of the project" refers to two novel studies but the following section "Provide a brief explanation of the research design" only describes one. Later in the application, when asked "How will the participants be selected/recruited?", the answer mentions a pilot (also mentioned in the Materials uploaded) but the pilot was not addressed at any other point. Is the pilot the second of the two novel studies? Last, the Debriefing has a section labelled “For political Groups”. Does this mean that there are two different debriefings?

My best guess is that there will be two distinct studies in prolific academic, one addressing racial groups and the other focusing on political groups (which may be later joined for analyses). However, this is an assumption that cannot be confirmed/clarified by looking at the application. Please enhance clarity when explaining the study.

Further clarity would also be useful in the section "Provide a brief explanation of the research design". The three conditions in the first variable are not clearly explained. The section also refers to a single "group" variable with 4 groups (Democrat vs Republican, Blacks vs Whites), is this a single variable or is it two variables (ethnic group and political group), each with two levels? Also, is this a variable within the same study, or a variable produced from joining two separate studies in Prolific (one about race and one about politics)? Due to the previous points, the information on the "positive or negative perception of XXX and XXX" is also unclear (4 groups are mentioned in the variable but only two are mentioned afterwards). It is also unclear in this section whether the relationship is framed as one way or two ways (e.g., democrats perceiving republicans in a negative manner, or both democrats and republicans perceiving the other in a negative manner). Note. This last point is clearer when seeing the materials.

Also note that the explanation of the design states that after being offered the possibility of continuing with the partner allocated or changing it, "Participants will then be proposed a new (ingroup or outgroup) partner". I suspect that this is an error as the participants are only given the information about one "partner" and only get to decide if they wish to continue with that connection once.

In regards to the materials. I suspect that the groups mentioned in the "Metaperception" and "Social norms" sections (WHITE, and Black) will be changed depending on the ethnic (and political?) identifications of the participant, but this is not clear. In later points, the materials refer to [Outgroup], which serves to more clearly identify the information that will change. Also, please note that the "social norms" section of the materials has an item that has been crossed (it is unclear why, please delete if not included in the study).

Regarding the Information Sheet, please check for typos and errors (e.g., regarding a tweet relation a news article”, also “data will be anonymised (this mean it can be tracked back to you)”)

.

University of East Anglia
Norwich Research Park
Norwich. NR4 7TJ

Email: ethicsapproval@uea.ac.uk
Web: www.uea.ac.uk

Please further note that the third bullet-point does not provide concrete/clearly understandable information to participants regarding how their data will be stored (not sure if any participants will be actually familiar with the 2018 General data Protection Regulation), or for how long data will be stored. One or two short sentences would make things clearer.

Other Sections

When asked "Will the research take place outside of the UK?", the answer selected is "No", however, the application states that participants will be from the USA (and the study is designed for them). Thus, it is unclear why "No" was selected. Will participants be US born but living in the UK?

Please discuss the above with your supervisor and enhance clarity in the application.

Recommendation

Amendments required

Reviewer 2:

A few small details need attending to (see comments on application, which should be visible to the student). No need for re-review as supervisor authorisation is sufficient due to the nature of the changes.

Recommendation

Amendments required

As your project does not have ethics approval until the above issues have been resolved, I would like to remind you that whilst planning on the project or literature-based elements can still take place, you must **not** begin to contact potential participants or start your data collection until ethics approval has been granted by the PSY S-REC (School of Psychology Research Ethics Subcommittee). This is to ensure that your research is undertaken within the University's Guidelines on Good Practice in Research approved by Senate in June 2019, and failure to proceed with your project without receiving ethics approval could constitute research misconduct.

Please update your application and resubmit.

On behalf of the PSY S-REC (School of Psychology Research Ethics Subcommittee)

Yours sincerely,

Guglielmo Calvini

Appendix B
Informed consent and debrief forms

Informed consent

Study 1 - informed consent.

Perceptions of social interactions

Name of Researcher: Agatha Bataille

Dear Potential participants, Thank you for your interest in this project on how we think about social interactions. The following 20-minute questionnaire is part of a research project by the above researcher for her PhD project in Psychology. You may contact us to ask any questions if you would like more information before taking part in the research (see contact details below).

We are interested in people's perceptions and experiences of social interactions. You may be asked to write a previous interaction that you've had, and how you felt about it. You will also be asked to read and provide your thought about two scenarios.

- Your participation is voluntary and you are free to withdraw at any time without giving any reason and without it affecting you at all. The last point of withdrawal is at the end of the survey when we will ask for your consent to include your responses.
- Your personal information will not be shared outside of the research team or published in the final report(s) from this study. All information which you provide during the study will be stored in accordance with the 2018 General Data Protection Regulation and kept strictly confidential.
- By answering the questions that follow it is assumed that you consent to take part and for your data to be used in academic research and for publications. While no personal information will be shared outside the research team, be aware that anonymized group data can be shared with other researchers. This is a common practice that supports scientific reliability.
- UEA Psychology students will receive 1 RPS credit for completing this study.

By answering the questions that follow it is assumed that you consent to take part and for your data to be used in academic research and for publications.

We are interested in your genuine responses so please take the questions at face value and give your personal opinion. If you have any questions about this study please contact the researchers.

Researcher contact details:

Agatha Bataille: A.Bataille@uea.ac.uk

Charles Seger: c.seger@uea.ac.uk

Do also contact us if you have any worries or concerns about this research School of Psychology.

Ethics Committee: ethics.psychology@uea.ac.uk; Phone 01603 597146

Head of School Professor Kenny Coventry: k.coventry@uea.ac.uk; Phone 01603 597145

I have read and understood the above information. (Yes or No)

I consent to take part in the study, and for my data to be used in academic research and for publications. (Yes or No)

I am 18 years old or older. (Yes or No)

Study 2 and study 3 - informed consent.

Perceptions of politics

Name of Researcher: Agatha Bataille

Dear Potential participant,

Thank you for your interest in this project on the relation between Democrats and Republicans. The following 10-minute questionnaire is part of a research project by Agatha Bataille for her PhD in Psychology.

You may contact us to ask any questions if you would like more information before taking part in the research (see contact details below).

We are interested in people's perceptions and experiences of politics and social interactions. You may be asked questions about your opinion on political topics as well as on your contact experiences and relationships with people with different political opinions and how you felt about it.

- Your participation is voluntary and you are free to withdraw at any time without giving any reason and without it affecting you at all. The last point of withdrawal is at the end of the survey when we will ask for your consent to include your responses.

- Your personal information will not be shared outside of the research team or published in the final report(s) from this study. All information which you provide during the study will be stored in accordance with the 2018 General Data Protection Regulation and kept strictly confidential.

- By answering the questions that follow it is assumed that you consent to take part and for your data to be used in academic research and for publications. While no personal information will be shared outside the research team, be aware that anonymized group data can be shared with other researchers. This is a common practice that supports science reliability.

We are interested in your genuine responses, so please take the questions at face value and give your personal opinion. If you have any questions about this study please contact the researchers.

Researcher contact details:

Agatha Bataille: A.Bataille@uea.ac.uk

Charles Seger: c.seger@uea.ac.uk

Do also contact us if you have any worries or concerns about this research School of Psychology.

Ethics Committee: ethics.psychology@uea.ac.uk; Phone 01603 597146

Head of School Professor Kenny Coventry: k.coventry@uea.ac.uk; Phone 01603 597145

I have read and understood the above information. (Yes or No)

I consent to take part in the study, and for my data to be used in academic research and for publications. (Yes or No)

I am 18 years old or older. (Yes or No)

Study 4 - informed consent.

Perceptions of race

Name of Researcher: Agatha Bataille

Dear Potential participant,

Thank you for your interest in this project on the relations between Black and White Americans. The following 10-minute questionnaire is part of a research project by Agatha Bataille for her PhD in Psychology.

You may contact us to ask any questions if you would like more information before taking part in the research (see contact details below).

We are interested in people's perceptions and experiences of social context and interactions. You may be asked questions about your opinion on and your contact experiences and relationships with people from a different group and how you felt about it.

- Your participation is voluntary and you are free to withdraw at any time without giving any reason and without it affecting you at all. The last point of withdrawal is at the end of the survey when we will ask for your consent to include your responses.

- Your personal information will not be shared outside of the research team or published in the final report(s) from this study. All information which you provide during the study will be stored in accordance with the 2018 General Data Protection Regulation and kept strictly confidential.

- By answering the questions that follow it is assumed that you consent to take part and for your data to be used in academic research and for publications. While no personal information will be shared outside the research team, be aware that anonymized group data can be shared with other researchers. This is a common practice that supports science reliability.

We are interested in your genuine responses, so please take the questions at face value and give your personal opinion. If you have any questions about this study please contact the researchers.

Researcher contact details:

Agatha Bataille: A.Bataille@uea.ac.uk

Charles Seger: c.seger@uea.ac.uk

Do also contact us if you have any worries or concerns about this research School of Psychology.

Ethics Committee: ethics.psychology@uea.ac.uk; Phone 01603 597146

Head of School Professor Kenny Coventry: k.coventry@uea.ac.uk; Phone 01603 597145

I have read and understood the above information. (Yes or No)

I consent to take part in the study, and for my data to be used in academic research and for publications. (Yes or No)

I am 18 years old or older. (Yes or No)

Study 5a and 5b - informed consent.

Perceptions of race

Name of Researcher: Agatha Bataille

Dear Potential participant,

Thank you for your interest in this project on people's engagement with news articles. The following 10-minute questionnaire is part of a research project by Agatha Bataille for her Ph.D. in Psychology.

You may contact us to ask any questions if you would like more information before taking part in the research (see contact details below).

In this study you will test some material for studies we want to conduct. You will be asked to complete a few different tasks (1- reading a tweet thread and answering questions about it, 2- interacting with someone for a short amount of time, 3- completing some scales, 4- evaluating materials).

Data will be anonymised, and video or audio will NOT be recorded. This experiment should take approximately 10 minutes.

- Your participation is voluntary and you are free to withdraw at any time without giving any reason and without it affecting you at all. The last point of withdrawal is at the end of the survey when we will ask for your consent to include your responses.

- Your personal information will not be shared outside of the research team or published in the final report(s) from this study. All information which you provide during the study will be stored in accordance with the 2018 General Data Protection Regulation and kept strictly confidential.

- By answering the questions that follow it is assumed that you consent to take part and for your data to be used in academic research and for publications. While no personal information will be shared outside the research team, be aware that anonymized group data can be shared with other researchers. This is a common practice that supports science reliability.

We are interested in your genuine responses, so please take the questions at face

value and give your personal opinion. If you have any questions about this study please contact the researchers.

Researcher contact details:

Agatha Bataille: A.Bataille@uea.ac.uk

Charles Seger: c.seger@uea.ac.uk

Do also contact us if you have any worries or concerns about this research School of Psychology.

Ethics Committee: ethics.psychology@uea.ac.uk; Phone 01603 597146

Head of School Professor Kenny Coventry: k.coventry@uea.ac.uk; Phone 01603 597145

I have read and understood the above information. (Yes or No)

I consent to take part in the study, and for my data to be used in academic research and for publications. (Yes or No)

I am 18 years old or older. (Yes or No)

Debrief

Study 1 - Debrief.

Perceptions of social interactions

Thank you for participating in this study. Your time and efforts are much appreciated.

Your data will be anonymized and used as group data to understand people's perceptions about social interactions, particularly in regards to what happens in our encounters with people from other ethnic groups.

More specifically, we are interested in people's perceptions of willingness to engage in intergroup contact (i.e., friendly interactions with people from a different ethnic or social group). The results of the exploratory experiment you just completed will help us understand why people might engage in or avoid contact with people from other ethnic groups. Although a lot of research shows that intergroup contact reduced prejudice, people often avoid such contact or do not have many opportunities for contact in their everyday lives.

We manipulated the ethnicity of the people in the scenarios you read, some characters were White British, others were East Asian.

If you have any questions regarding this study, please feel free to ask or contact the researcher or supervisor of this study now, or at a later date.

If you would like to receive a report of the main findings of the study (or a summary of the findings) when it is completed please contact the researcher, however individual feedback on your results cannot be given.

If you are interested in learning more about intergroup relations and prejudice, visit understandingprejudice.org.

The first step in accessing help or support for emotional difficulties is to discuss the problem with your GP. They will be able to advise you on access to local resources and refer you on if appropriate.

If you feel like you have been the victim of discrimination or bullying based on your ethnicity, or if you feel uncomfortable in recalling some of these things, we recommend you

visit UEA's Student Services https://portal.uea.ac.uk/student-support-service. They also can help with obtaining support for learning and health issues. Psychology students can also email our embedded support team at embedded.SSF@uea.ac.uk.

Research team

Researcher: Agatha Bataille (a.bataille@uea.ac.uk) Supervisor: Dr Charles Seger (c.seger@uea.ac.uk); Phone 01603591398

Do also contact us if you have any worries or concerns about this research.

School of Psychology Ethics Committee: ethics.psychology@uea.ac.uk; Phone 01603 597146

Head of School Professor Kenny Coventry: k.coventry@uea.ac.uk; Phone 01603 597145

Thank you again for your participation.

Sometimes people will not want us to use their responses because, for example, they feel they didn't pay enough attention to the questions or they don't want to take part in the research anymore. Should we use your anonymous questionnaire responses? This will not affect your compensation either way.

- Yes, use my data
- No, do not use my data

Study 2 and study 3 - Debrief.

Perceptions of politics

Thank you for participating in this study. Your time and efforts are much appreciated.

Your data will be anonymized and used as group data to understand how Democrats and Republicans perceive each other. We know that having social interaction with people from opposing political groups can sometimes make us feel warmer towards that group, or sometimes make us angry. We were interested in how your past experiences with either Democrats or Republicans related to your current political attitudes. We were interested in how your willingness to engage in future contact with the opposite group is influenced by what you believe the opposite group thinks of your own. Of course, we realize that some of you may feel no meaningful connection to either political party, and that's fine. Even though you were forced to choose, we wanted people with no strong feelings toward a party. There were no right nor wrong answers on any of these items, and none of the responses here should be seen as indicative of prejudice or intergroup animosity. If you have any questions regarding this study, please feel free to ask or contact the researcher or supervisor of this study now, or at a later date.

You will receive $0.20 for participating today through the Mechanical Turk Website.

If you would like to receive a report of the main findings of the study (or a summary of the findings) when it is completed please contact the researcher, however individual feedback on your results cannot be given.

If you need mental health support or are having difficulty in your relationships, you might want to visit www.mentalhealth.gov/

More information on the principle candidates in the 2020 election can be found on the below websites: https://www.isidewith.com/

For instructions on how to check your voter registration, go to www.usa.gov/confirm-voter-registration

To learn more about what is true and false in current political discourse, you can visit www.politifact.com/

Research team

Researcher: Agatha Bataille (a.bataille@uea.ac.uk) Supervisor: Dr Charles Seger (c.seger@uea.ac.uk); Phone 01603591398

Do also contact us if you have any worries or concerns about this research.

School of Psychology Ethics Committee: ethics.psychology@uea.ac.uk; Phone 01603 597146
Head of School Professor Kenny Coventry: k.coventry@uea.ac.uk; Phone 01603 597145

Thank you again for your participation.

Sometimes people will not want us to use their responses because, for example, they feel they didn't pay enough attention to the questions or they don't want to take part in the research anymore. Should we use your anonymous questionnaire responses? This will not affect your compensation either way.

- Yes, use my data
- No, do not use my data

Study 4 - Debrief.

Perceptions of race

Thank you for participating in this study. Your time and efforts are much appreciated. Your data will be anonymized and used as group data to understand how BLACK and WHITE perceived each other.

We know that having social interactions with people from a different group can sometimes make us feel warmer towards that group, or sometimes make us angry. We were interested in how your willingness to engage in future contact with the opposite group is influenced by what you believe the opposite group thinks of your own.

If you have any questions regarding this study, please feel free to ask or contact the researcher or supervisor of this study now, or at a later date. If you would like to receive a report of the main findings of the study (or a summary of the findings) when it is completed please contact the researcher, however individual feedback on your results cannot be given. If you are interested in learning more about intergroup relations and prejudice, visit understandingprejudice.org.

Research team

Researcher: Agatha Bataille (a.bataille@uea.ac.uk) Supervisor: Dr Charles Seger (c.seger@uea.ac.uk); Phone 01603591398

Do also contact us if you have any worries or concerns about this research.

School of Psychology Ethics Committee: ethics.psychology@uea.ac.uk; Phone 01603 597146

Head of School Professor Kenny Coventry: k.coventry@uea.ac.uk; Phone 01603 597145

Thank you again for your participation.

Sometimes people will not want us to use their responses because, for example, they feel they didn't pay enough attention to the questions or they don't want to take part in the research anymore. Should we use your anonymous questionnaire responses? This will not affect your compensation either way.

- Yes, use my data

- No, do not use my data

Study 5a and 5b - Debrief.

Perceptions of social interactions

Thank you for participating in this study. Your time and efforts are much appreciated. Your data will be anonymized and used as group data.

At the beginning of this study, we told you we were testing material for a new study. However, the real purpose of this experiment is to understand how Democrats and Republicans' perceptions of each other impact their intergroup contact-seeking behaviours.

We know that having social interaction with people from different political groups can sometimes make us feel warmer towards that group, or sometimes make us angry. We were interested in how your willingness to engage in future contact with the opposite group is influenced by what you believe the opposite group thinks of your own. In order to do so, you were presented with a news article/tweet relaying a news article reporting either that: Both groups feel positive about each other. Both groups feel negative about each other.

Tourism in America is down. You were then asked whether you wanted to interact with a partner of either your own or a different group or choose a new partner. Finally, we asked you a few questions regarding your perception of Democrats and Republicans as well as yourself. Since we are interested in who you choose to interact with rather than the content of the interaction itself, we did not actually try to connect you to a live chat.

There were no right nor wrong answers to any of these items, and none of the responses here should be seen as indicative of prejudice or intergroup animosity. If you have any questions regarding this study, please feel free to ask or contact the researcher or supervisor of this study now, or at a later date.

You will receive £1 for participating today through Prolific.

If you would like to receive a report of the main findings of the study (or a summary of the findings) when it is completed, please contact the researcher, however individual feedback on your results cannot be given.

If you need mental health support or are having difficulty in your relationships, you might want to visit www.mentalhealth.gov

Research team

Researcher: Agatha Bataille (a.bataille@uea.ac.uk) Supervisor: Dr Charles Seger (c.seger@uea.ac.uk); Phone 01603591398

Do also contact us if you have any worries or concerns about this research.
School of Psychology Ethics Committee: ethics.psychology@uea.ac.uk; Phone 01603 597146
Head of School Professor Kenny Coventry: k.coventry@uea.ac.uk; Phone 01603 597145

Thank you again for your participation.

Sometimes people will not want us to use their responses because, for example, they feel they didn't pay enough attention to the questions or they don't want to take part in the research anymore. Should we use your anonymous questionnaire responses? This will not affect your compensation either way.

- Yes, use my data
- No, do not use my data

Appendix C
Material Study 1

Part 1 - Open Question

Instructions. Think of one time you had the opportunity to engage in a conversation with a White British person that you did not previously know. This could be any kind of situation, at university, at a job, in a social setting, etc. We would now like you to describe, as best as you can, this situation in the following box. This does not need to be long. Don't worry about forgetting anything as we will ask you some questions once you have done your initial description.

Now, we know it is sometimes hard to remember everything so we would like to ask you a few questions to complete your description.

- Where did it take place?
- I don't remember / don't want to answer.
- I already indicated it
- (open response).....

Additional questions with open response:

- What was it about?
- Without revealing any personal information, who was the other person?
- Was it only the two of you or were there more person?
- Why do you enter into a conversation with that person?
- Who said the first thing?
- How did you feel going into it?
- How did you think about them initially?
- What do you think they thought of you initially?

- Think of any other detail that might be useful to understand the interaction you had:

Part 2 – Scenarios

Instructions: scenario reading. Read the below scenario, and try to picture how the characters are feeling and what they might be thinking. You will be asked questions about this later. To help you visualise, you will see names and faces of the individuals involved in the scenario.

Example of Scenario read by the participants:

Direct - Rejected: Imagine you are at your local train station. In front of you, there is Bo sitting on a bench, reading, while apparently waiting for his train. Suddenly, Harry appears in front of Bo and startles him. Harry explained that his phone just ran out of batteries and that he needs to call a friend to tell him that his train has been delayed. He asks Bo, his phone. Bo refuses. Why do you think Bo would have refused to share her phone?

Table 36

List of name used in the scenario as a function of ethnicity and gender.

		Ethnicity	
		White British	**East-Asian**
Gender	**Female**	Amelia, Olivia, Emily	Ai, Bi, Cai
	Male	Oliver, Jack, Harry	An, Bo, Cheng

Instructions: general questions. Please respond to the following questions using the Likert scales where 1 = very negative and 7 = very positive.

- How do you think Bi felt about the exchange?
- How do you think Cai felt about the exchange?
- How do you think Bi would feel if she met Cai again?
- How do you think Cai would feel if she met Bi again?

Figure 13

Example of pictures included with the scenario to represent scenario characters

Note. Characters' names and pictures were displayed and suggested the characters were either White British or East Asian. Scenario characters were either all female or all male and match participants' gender or were randomly attributed for participants answering non-binary/other/prefer not to say. Face images courtesy of Michael J. Tarr, Carnegie Mellon University, http://www.tarrlab.org/. Funding provided by NSF award 0339122.

- What do you think Bi thought of Cai when she first noticed her at the beginning of the interaction?
- What do you think Cai thought of Bi when she first noticed her at the beginning of the interaction?

Could you now list up to five factors that, according to you, may have influenced Bi's response?

- ..... (Entry box)
- .....
- .....
- .....
- .....

How much do you think that each of these feelings might have influenced Bi's behaviour?

- anxiety,
- empathy,
- feelings of threat,
- excitement,
- anger,
- disgust

Instructions: factor from the literature. Now, we will present you with a list of different factors we think might have influenced the behaviour of the characters in the previous scenario. Could you indicate according to you how much each of these factors might have influenced their behaviour? (Likert scales, From 1 not relevant/impactful to 7 very relevant/impactful).

- What Bi thinks Cai thinks of her.
- What Bi thinks Cai thinks of Bi's ethnic group.
- What Bi thinks Cai thinks of herself.
- What Bi thinks Cai thinks of Cai's own ethnic group.
- What Bi has heard on the media about Cai's ethnic group.
- What a friend told Bi about Cai's ethnic group.
- Bi's prejudice toward Cai.
- Bi's prejudice toward Cai's ethnic group.
- How similar Bi thinks she is to Cai.
- How different Bi thinks she is from Cai.
- The fact that they belong to the same group.

Part 3 – Individual differences

Past contact experience.

- On average, how frequently do you have negative/bad contact with White British people? Choose the appropriate number from 0 = never to 7 = extremely frequently.
- On average, how frequently do you have negative/bad contact with East Asian people? Choose the appropriate number from 0 = never to 7 = extremely frequently.
- On average, how frequently do you have positive/good contact with White British people? Choose the appropriate number from 0 = never to 7 = extremely frequently.
- On average, how frequently do you have positive/good contact with East Asian people? Choose the appropriate number from 0 = never to 7 = extremely frequently.

Feeling thermometer. Below is something that looks like a thermometer. We call it a "feeling thermometer" because it measures your feelings towards groups. Here's how it works. If you don't know too much about a group or don't feel particularly warm or cold toward them, then you should place them in the middle at the 5-degree mark. If you have warm feelings toward a group or feel favourably toward it, you would give it a score somewhere between 5 and 10 depending on how warm your feeling is toward the group. On the other hand, if you don't feel very favourably toward some of these groups – if there are some you don't care for too much – then you would place them somewhere between the 0 and 5 marks.

- How do you feel about White British people?
- How do you feel about East-Asian people?

General evaluation scale. Please rate your feelings towards [White British/East Asian] people by marking the appropriate point between the following pairs of words.

Negative ——————-][——————- Positive

Hostile ——————-][——————- Friendly

Suspicious ——————-][——————- Trusting

Contempt ——————-][——————- Respect

Appendix D
Tables Study 1

Main analysis

Table 37

Results of the linear mixed-effects model comparing factor importance.

		value	
Predictors	*Estimates*	*CI*	*p*
(Intercept)	4.09	3.92 – 4.26	**<0.001**
Meta-perception (Group)	-0.95	-1.11 – -0.78	**<0.001**
Perception Outgroup (Self)	-0.92	-1.09 – -0.76	**<0.001**
Perception Outgroup (Group)	-1.34	-1.51 – -1.18	**<0.001**
Prejudice (Self)	-0.56	-0.72 – -0.39	**<0.001**
Prejudice (Group)	-0.80	-0.96 – -0.63	**<0.001**
Norms (Media)	-0.78	-0.94 – -0.61	**<0.001**
Norms (Friends)	-0.69	-0.85 – -0.52	**<0.001**
Similarity	-0.14	-0.31 – 0.02	0.088
Difference	-0.29	-0.46 – -0.13	**<0.001**
Group Status	-0.53	-0.69 – -0.36	**<0.001**
Random Effects			
σ^2	2.18		
$\tau_{00\ id}$	1.15		
ICC	0.34		
N_{id}	306		
Observations	6732		
Marginal R^2 / Conditional R^2	0.040 / 0.371		

Engagement

Engagement vs avoidance.

Table 38

Results of the linear mixed-effects model comparing factor importance depending on the engagement or avoidance of the contact situation by the scenario characters.

		value	
Predictors	*Estimates*	*CI*	*p*
(Intercept)	4.65	4.45 – 4.85	**<0.001**
Meta-perception (Group)	-1.42	-1.65 – -1.20	**<0.001**
Perception Outgroup (Self)	-1.46	-1.69 – -1.24	**<0.001**
Perception Outgroup (Group)	-1.89	-2.12 – -1.66	**<0.001**
Prejudice (Self)	-1.55	-1.78 – -1.32	**<0.001**
Prejudice (Group)	-1.67	-1.89 – -1.44	**<0.001**
Norms (Media)	-1.53	-1.76 – -1.30	**<0.001**
Norms (Friends)	-1.50	-1.73 – -1.28	**<0.001**
Similarity	-0.22	-0.45 – 0.01	0.060
Difference	-1.38	-1.61 – -1.15	**<0.001**
Group Status	-1.10	-1.33 – -0.87	**<0.001**
Engagement	-1.12	-1.35 – -0.89	**<0.001**
Meta-perception (Group) — Rejection	0.95	0.63 – 1.28	**<0.001**
Perception Outgroup (Self) — Rejection	1.08	0.76 – 1.40	**<0.001**
Perception Outgroup (Group) — Rejection	1.09	0.77 – 1.41	**<0.001**
Prejudice (Self) — Rejection	1.99	1.67 – 2.32	**<0.001**
Prejudice (Group) — Rejection	1.74	1.42 – 2.06	**<0.001**
Norms (Media) — Rejection	1.50	1.18 – 1.83	**<0.001**
Norms (Friends) — Rejection	1.63	1.31 – 1.95	**<0.001**
Similarity — Rejection	0.15	-0.17 – 0.47	0.361
Difference — Rejection	2.18	1.85 – 2.50	**<0.001**
Group Status — Rejection	1.14	0.81 – 1.46	**<0.001**
Random Effects			
σ^2	2.07		
$\tau_{00\ id}$	1.15		
ICC	0.36		
N_{id}	306		
Observations	6732		
Marginal R^2 / Conditional R^2	0.072 / 0.404		

Engagement.

Table 39

Results of the linear mixed-effects model comparing factor importance when contact is accepted.

		value	
Predictors	*Estimates*	*CI*	*p*
(Intercept)	4.65	4.45 – 4.85	**<0.001**
Meta-perception (Group)	-1.42	-1.64 – -1.21	**<0.001**
Perception Outgroup (Self)	-1.46	-1.68 – -1.25	**<0.001**
Perception Outgroup (Group)	-1.89	-2.11 – -1.67	**<0.001**
Prejudice (Self)	-1.55	-1.77 – -1.33	**<0.001**
Prejudice (Group)	-1.67	-1.88 – -1.45	**<0.001**
Norms (Media)	-1.53	-1.75 – -1.31	**<0.001**
Norms (Friends)	-1.50	-1.72 – -1.29	**<0.001**
Similarity	-0.22	-0.44 – -0.00	**0.048**
Difference	-1.38	-1.60 – -1.16	**<0.001**
Group Status	-1.10	-1.32 – -0.88	**<0.001**
Random Effects			
σ^2	1.88		
$\tau_{00\ id}$	1.28		
ICC	0.41		
N_{id}	306		
Observations	3366		
Marginal R^2 / Conditional R^2	0.093 / 0.461		

Table 40

Estimated marginal means for each factor when contact is accepted (i.e., engagement).

Variable	emmean	SE	df	95% CL	
				LL	UL
Meta-perception (Self)	4.65	.10	1275	4.45	4.85
Meta-perception (Group)	3.23	.10	1275	3.03	3.43
Perception Outgroup (Self)	3.19	.10	1275	2.99	3.39
Perception Outgroup (Group)	2.76	.10	1275	2.56	2.96
Norms (Media)	3.12	.10	1275	2.92	3.32
Norms (Friends)	3.15	.10	1275	2.95	3.35
Prejudice (Self)	3.1	.10	1275	2.9	3.3
Prejudice (Group)	2.98	.10	1275	2.78	3.18
Similarity	4.43	.10	1275	4.23	4.63
Difference	3.27	.10	1275	3.07	3.47
Group Status	3.55	.10	1275	3.35	3.75

Note. emmeans and SE represent the estimated marginal mean and standard error. LL and UL represent lower and upper bound 95% confidence intervals.

Avoidance.

Table 41

Estimated marginal means for each factor when contact is avoided.

Variable	emmean	SE	df	95% CL	
				LL	UL
Meta-perception (Self)	3.53	.10	1277	3.33	3.73
Meta-perception (Group)	3.06	.10	1277	2.86	3.26
Perception Outgroup (Self)	3.14	.10	1277	2.94	3.35
Perception Outgroup (Group)	2.73	.10	1277	2.53	2.93
Norms (Media)	3.5	.10	1277	3.3	3.71
Norms (Friends)	3.65	.10	1277	3.45	3.86
Prejudice (Self)	3.97	.10	1277	3.77	4.17
Prejudice (Group)	3.6	.10	1277	3.4	3.8
Similarity	3.46	.10	1277	3.26	3.66
Difference	4.32	.10	1277	4.12	4.53
Group Status	3.57	.10	1277	3.37	3.77

Note. emmeans and SE represent the estimated marginal mean and standard error. LL and UL represent lower and upper bound 95% confidence intervals.

Table 42

Results of the linear mixed-effects model comparing factor importance when contact is avoided.

		value	
Predictors	*Estimates*	*CI*	*p*
(Intercept)	3.53	3.33 – 3.73	**<0.001**
Meta-perception (Group)	-0.47	-0.69 – -0.25	**<0.001**
Perception Outgroup (Self)	-0.39	-0.61 – -0.16	**0.001**
Perception Outgroup (Group)	-0.80	-1.02 – -0.58	**<0.001**
Prejudice (Self)	0.44	0.22 – 0.66	**<0.001**
Prejudice (Group)	0.07	-0.15 – 0.29	0.523
Norms (Media)	-0.03	-0.25 – 0.19	0.816
Norms (Friends)	0.12	-0.10 – 0.34	0.270
Similarity	-0.07	-0.29 – 0.15	0.542
Difference	0.79	0.57 – 1.01	**<0.001**
Group Status	0.04	-0.18 – 0.26	0.728
Random Effects			
σ^2	1.94		
$\tau_{00\ id}$	1.32		
ICC	0.41		
N_{id}	306		
Observations	3366		
Marginal R^2 / Conditional R^2	0.049 / 0.435		

Forms of contact

Direct vs Indirect.

Table 43

Results of the linear mixed-effects model comparing factor importance depending on the form of contact.

		value	
Predictors	*Estimates*	*CI*	*p*
(Intercept)	3.83	3.63 – 4.04	**<0.001**
Forms of Contact I	0.51	0.28 – 0.75	**<0.001**
Meta-perception (Group)	-0.69	-0.92 – -0.46	**<0.001**
Perception Outgroup (Self)	-0.81	-1.04 – -0.58	**<0.001**
Perception Outgroup (Group)	-1.11	-1.34 – -0.88	**<0.001**
Prejudice (Self)	-0.31	-0.54 – -0.07	**0.010**
Prejudice (Group)	-0.45	-0.68 – -0.21	**<0.001**
Norms (Media)	-0.43	-0.67 – -0.20	**<0.001**
Norms (Friends)	-0.43	-0.66 – -0.19	**<0.001**
Similarity	0.18	-0.06 – 0.41	0.139
Difference	-0.15	-0.38 – 0.08	0.207
Group Status	-0.23	-0.47 – 0.00	0.052
Forms of Contact I — Meta-perception (Group)	-0.52	-0.85 – -0.19	**0.002**
Forms of Contact I — Perception Outgroup (Self)	-0.23	-0.56 – 0.10	0.175
Forms of Contact I — Perception Outgroup (Group)	-0.47	-0.80 – -0.14	**0.006**
Forms of Contact I — Prejudice (Self)	-0.50	-0.83 – -0.17	**0.003**
Forms of Contact I — Prejudice (Group)	-0.70	-1.03 – -0.37	**<0.001**
Forms of Contact I — Norms (Media)	-0.69	-1.02 – -0.36	**<0.001**
Forms of Contact I — Norms (Friends)	-0.52	-0.85 – -0.19	**0.002**
Forms of Contact I — Similarity	-0.64	-0.97 – -0.31	**<0.001**
Forms of Contact I — Difference	-0.29	-0.62 – 0.04	0.088
Forms of Contact I — Group Status	-0.59	-0.93 – -0.26	**<0.001**
Random Effects			
σ^2	2.17		
$\tau_{00\ id}$	1.15		
ICC	0.35		
N_{id}	306		
Observations	6732		
Marginal R^2 / Conditional R^2	0.043 / 0.374		

Direct.

Table 44

Results of the linear mixed-effects model comparing factor importance when contact is direct.

		value	
Predictors	*Estimates*	*CI*	*p*
(Intercept)	3.83	3.63 – 4.04	**<0.001**
Meta-perception (Group)	-0.69	-0.91 – -0.47	**<0.001**
Perception Outgroup (Self)	-0.81	-1.03 – -0.59	**<0.001**
Perception Outgroup (Group)	-1.11	-1.33 – -0.89	**<0.001**
Prejudice (Self)	-0.31	-0.53 – -0.09	**0.006**
Prejudice (Group)	-0.45	-0.67 – -0.23	**<0.001**
Norms (Media)	-0.43	-0.65 – -0.22	**<0.001**
Norms (Friends)	-0.43	-0.65 – -0.21	**<0.001**
Similarity	0.18	-0.04 – 0.40	0.114
Difference	-0.15	-0.37 – 0.07	0.178
Group Status	-0.23	-0.45 – -0.01	**0.038**
Random Effects			
σ^2	1.91		
$\tau_{00\ id}$	1.39		
ICC	0.42		
N_{id}	306		
Observations	3366		
Marginal R^2 / Conditional R^2	0.036 / 0.442		

Table 45

Estimated marginal means for each factor when contact is direct.

Variable	emmean	SE	df	95% CL	
				LL	UL
Meta-perception (Self)	3.83	.10	1216	3.63	4.04
Meta-perception (Group)	3.14	.10	1216	2.94	3.35
Perception Outgroup (Self)	3.02	.10	1216	2.82	3.23
Perception Outgroup (Group)	2.72	.10	1216	2.52	2.93
Norms (Media)	3.4	.10	1216	3.19	3.6
Norms (Friends)	3.41	.10	1216	3.2	3.61
Prejudice (Self)	3.53	.10	1216	3.32	3.73
Prejudice (Group)	3.39	.10	1216	3.18	3.59
Similarity	4.01	.10	1216	3.81	4.21
Difference	3.68	.10	1216	3.48	3.89

Note. emmeans and SE represent the estimated marginal mean and standard error. LL and UL represent lower and upper bound 95% confidence intervals.

Indirect.

Table 46

Estimated marginal means for each factor when contact is indirect.

Variable	emmean	SE	df	95% CL	
				LL	UL
Meta-perception (Self)	4.35	.11	1465	4.14	4.55
Meta-perception (Group)	3.14	.11	1465	2.94	3.35
Perception Outgroup (Self)	3.31	.11	1465	3.1	3.51
Perception Outgroup (Group)	2.77	.11	1465	2.56	2.97
Norms (Media)	3.23	.11	1465	3.02	3.43
Norms (Friends)	3.4	.11	1465	3.19	3.6
Prejudice (Self)	3.54	.11	1465	3.34	3.75
Prejudice (Group)	3.2	.11	1465	2.99	3.4
Similarity	3.88	.11	1465	3.68	4.09
Difference	3.91	.11	1465	3.7	4.11
Group Status	3.52	.11	1465	3.31	3.72

Note. emmeans and SE represent the estimated marginal mean and standard error. LL and UL represent lower and upper bound 95% confidence intervals.

Table 47

Results of the linear mixed-effects model comparing factor importance when contact is indirect.

		value	
Predictors	*Estimates*	*CI*	*p*
(Intercept)	4.35	4.14 – 4.55	**<0.001**
Meta-perception (Group)	-1.21	-1.44 – -0.97	**<0.001**
Perception Outgroup (Self)	-1.04	-1.27 – -0.81	**<0.001**
Perception Outgroup (Group)	-1.58	-1.81 – -1.35	**<0.001**
Norms (Media)	-1.12	-1.35 – -0.89	**<0.001**
Norms (Friends)	-0.95	-1.18 – -0.72	**<0.001**
Prejudice (Self)	-0.80	-1.04 – -0.57	**<0.001**
Prejudice (Group)	-1.15	-1.38 – -0.92	**<0.001**
Similarity	-0.46	-0.70 – -0.23	**<0.001**
Difference	-0.44	-0.67 – -0.21	**<0.001**
Group Status	-0.83	-1.06 – -0.60	**<0.001**
Random Effects			
σ^2	2.13		
$\tau_{00\ id}$	1.20		
ICC	0.36		
N_{id}	306		
Observations	3366		
Marginal R^2 / Conditional R^2	0.049 / 0.393		

Type of interaction

Depending on interaction type (main model).

Table 48

Results of the linear mixed-effects model comparing factor importance depending on the type of interaction.

(a)

	value		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	4.12	3.86 – 4.38	**<0.001**
Interaction -EastAsian_White	-0.08	-0.43 – 0.27	0.651
Interaction -White_EastAsian	-0.09	-0.41 – 0.24	0.601
Interaction -EastAsian_EastAsian	0.05	-0.29 – 0.39	0.777
Meta-perception (Group)	-1.53	-1.86 – -1.21	**<0.001**
Perception Outgroup (Self)	-1.20	-1.53 – -0.87	**<0.001**
Perception Outgroup (Group)	-1.80	-2.13 – -1.47	**<0.001**
Prejudice (Self)	-0.19	-0.51 – 0.14	0.258
Prejudice (Group)	-0.72	-1.05 – -0.39	**<0.001**
Norms (Media)	-0.67	-1.00 – -0.34	**<0.001**
Norms (Friends)	-0.43	-0.76 – -0.10	**0.010**
Similarity	-0.08	-0.41 – 0.24	0.612
Difference	-0.19	-0.52 – 0.13	0.242
Group Status	-0.39	-0.72 – -0.06	**0.019**
Interaction - EastAsian_White — Meta-perception (Group)	0.40	-0.08 – 0.88	0.105
Interaction - White_EastAsian — Meta-perception (Group)	0.91	0.46 – 1.36	**<0.001**
Interaction - EastAsian_EastAsian — Meta-perception (Group)	0.97	0.51 – 1.44	**<0.001**
Interaction - EastAsian_White — Perception Outgroup (Self)	0.21	-0.27 – 0.69	0.393
Interaction - White_EastAsian — Perception Outgroup (Self)	0.35	-0.10 – 0.79	0.131
Interaction - EastAsian_EastAsian — Perception Outgroup (Self)	0.54	0.07 – 1.00	**0.023**
Interaction - EastAsian_White — Perception Outgroup (Group)	0.48	0.00 – 0.96	**0.048**
Interaction - White_EastAsian — Perception Outgroup (Group)	0.63	0.18 – 1.08	**0.006**
Interaction - EastAsian_EastAsian — Perception Outgroup (Group)	0.69	0.22 – 1.15	**0.004**
Interaction - EastAsian_White — Prejudice (Self)	-0.79	-1.27 – -0.31	**0.001**
Interaction - White_EastAsian — Prejudice (Self)	-0.35	-0.80 – 0.10	0.127

(b)

Interaction - EastAsian_EastAsian — Prejudice (Self)	-0.39	-0.85 – 0.07	0.098
Interaction - EastAsian_White — Prejudice (Group)	-0.28	-0.76 – 0.20	0.254
Interaction - White_EastAsian — Prejudice (Group)	-0.01	-0.46 – 0.44	0.974
Interaction - EastAsian_EastAsian — Prejudice (Group)	-0.06	-0.52 – 0.41	0.814
Interaction - EastAsian_White — Norms (Media)	-0.17	-0.65 – 0.31	0.498
Interaction - White_EastAsian — Norms (Media)	-0.07	-0.52 – 0.38	0.756
Interaction - EastAsian_EastAsian — Norms (Media)	-0.21	-0.68 – 0.25	0.368
Interaction - EastAsian_White — Norms (Friends)	-0.37	-0.85 – 0.11	0.132
Interaction - White_EastAsian — Norms (Friends)	-0.27	-0.72 – 0.18	0.237
Interaction - EastAsian_EastAsian — Norms (Friends)	-0.42	-0.88 – 0.04	0.075
Interaction -EastAsian_White — Similarity	0.24	-0.24 – 0.72	0.322
Interaction - White_EastAsian — Similarity	-0.26	-0.71 – 0.19	0.252
Interaction - EastAsian_EastAsian — Similarity	-0.15	-0.62 – 0.31	0.519
Interaction - EastAsian_White — Difference	-0.53	-1.01 – -0.05	**0.029**
Interaction - White_EastAsian — Difference	0.17	-0.28 – 0.61	0.469
Interaction - EastAsian_EastAsian — Difference	-0.12	-0.58 – 0.34	0.609
Interaction - EastAsian_White — Group Status	-0.58	-1.06 – -0.10	**0.018**
Interaction - White_EastAsian — Group Status	-0.21	-0.65 – 0.24	0.369
Interaction - EastAsian_EastAsian — Group Status	0.18	-0.28 – 0.64	0.449
Random Effects			
σ^2	2.14		
$\tau_{00\ id}$	1.15		
ICC	0.35		
N_{id}	306		
Observations	6732		
Marginal R^2 / Conditional R^2	0.056 / 0.386		

For each type of interaction separately.

Table 49

Results of the linear mixed-effects model comparing factor importance when the interaction is between two ingroup members

		value	
Predictors	*Estimates*	*CI*	*p*
(Intercept)	4.20	3.92 – 4.48	**<0.001**
Meta-perception (Group)	-1.53	-1.86 – -1.20	**<0.001**
Perception Outgroup (Self)	-1.20	-1.53 – -0.87	**<0.001**
Perception Outgroup (Group)	-1.80	-2.13 – -1.47	**<0.001**
Prejudice (Self)	-0.19	-0.52 – 0.14	0.264
Prejudice (Group)	-0.72	-1.05 – -0.39	**<0.001**
Norms (Media)	-0.67	-1.00 – -0.34	**<0.001**
Norms (Friends)	-0.43	-0.76 – -0.10	**0.011**
Similarity	-0.08	-0.42 – 0.25	0.617
Difference	-0.19	-0.53 – 0.14	0.248
Group Status	-0.39	-0.72 – -0.06	**0.021**
Random Effects			
σ^2	2.19		
$\tau_{00\ id}$	0.93		
ICC	0.30		
N_{id}	154		
Observations	1694		
Marginal R^2 / Conditional R^2	0.097 / 0.366		

Table 50

Estimated marginal means for each factor when the interaction is between two ingroup members.

Variable	emmean	SE	df	95% CL	
				LL	UL
Meta-perception (Self)	4.2	.14	902	3.92	4.48
Meta-perception (Group)	2.67	.14	902	2.39	2.95
Perception Outgroup (Self)	3	.14	902	2.72	3.28
Perception Outgroup (Group)	2.4	.14	902	2.12	2.68
Norms (Media)	3.53	.14	902	3.25	3.81
Norms (Friends)	3.77	.14	902	3.49	4.05
Prejudice (Self)	4.01	.14	902	3.73	4.29
Prejudice (Group)	3.48	.14	902	3.2	3.76
Similarity	4.12	.14	902	3.84	4.4
Difference	4.01	.14	902	3.73	4.29
Group Status	3.81	.14	902	3.53	4.09

Note. emmeans and SE represent the estimated marginal mean and standard error. LL and UL represent lower and upper bound 95% confidence intervals.

Table 51

Estimated marginal means for each factor when the interaction is between an ingroup and an outgroup member.

Variable	emmean	SE	df	95% CL	
				LL	UL
Meta-perception (Self)	4.09	.14	622	3.81	4.36
Meta-perception (Group)	3.46	.14	622	3.19	3.73
Perception Outgroup (Self)	3.23	.14	622	2.96	3.5
Perception Outgroup (Group)	2.92	.14	622	2.65	3.19
Norms (Media)	3.35	.14	622	3.07	3.62
Norms (Friends)	3.39	.14	622	3.11	3.66
Prejudice (Self)	3.55	.14	622	3.28	3.82
Prejudice (Group)	3.36	.14	622	3.09	3.63
Similarity	3.74	.14	622	3.47	4.01
Difference	4.06	.14	622	3.79	4.33
Group Status	3.49	.14	622	3.22	3.76

Note. emmeans and SE represent the estimated marginal mean and standard error. LL and UL represent lower and upper bound 95% confidence intervals.

Table 52

Results of the linear mixed-effects model comparing factor importance when the interaction is between an ingroup and an outgroup member.

		value	
Predictors	*Estimates*	*CI*	*p*
(Intercept)	4.09	3.82 – 4.36	**<0.001**
Meta-perception (Group)	-0.62	-0.91 – -0.34	**<0.001**
Perception Outgroup (Self)	-0.86	-1.14 – -0.57	**<0.001**
Perception Outgroup (Group)	-1.17	-1.45 – -0.88	**<0.001**
Prejudice (Self)	-0.54	-0.82 – -0.25	**<0.001**
Prejudice (Group)	-0.73	-1.01 – -0.45	**<0.001**
Norms (Media)	-0.74	-1.02 – -0.46	**<0.001**
Norms (Friends)	-0.70	-0.98 – -0.42	**<0.001**
Similarity	-0.35	-0.63 – -0.06	**0.016**
Difference	-0.03	-0.31 – 0.25	0.841
Group Status	-0.60	-0.88 – -0.31	**<0.001**
Random Effects			
σ^2	1.80		
$\tau_{00\ id}$	1.51		
ICC	0.46		
N_{id}	173		
Observations	1903		
Marginal R^2 / Conditional R^2	0.031 / 0.473		

Table 53

Results of the linear mixed-effects model comparing factor importance when the interaction is between an outgroup and an ingroup member.

		value	
Predictors	*Estimates*	*CI*	*p*
(Intercept)	3.97	3.67 – 4.27	**<0.001**
Meta-perception (Group)	-1.14	-1.48 – -0.79	**<0.001**
Perception Outgroup (Self)	-0.99	-1.34 – -0.65	**<0.001**
Perception Outgroup (Group)	-1.32	-1.66 – -0.97	**<0.001**
Prejudice (Self)	-0.98	-1.32 – -0.63	**<0.001**
Prejudice (Group)	-1.00	-1.34 – -0.66	**<0.001**
Norms (Media)	-0.83	-1.18 – -0.49	**<0.001**
Norms (Friends)	-0.80	-1.14 – -0.45	**<0.001**
Similarity	0.16	-0.19 – 0.50	0.368
Difference	-0.73	-1.07 – -0.39	**<0.001**
Group Status	-0.97	-1.31 – -0.63	**<0.001**
Random Effects			
σ^2	2.04		
$\tau_{00\ id}$	1.16		
ICC	0.36		
N_{id}	133		
Observations	1463		
Marginal R^2 / Conditional R^2	0.056 / 0.397		

Table 54

Estimated marginal means for each factor when the interaction is between an outgroup and an ingroup member.

Variable	emmean	SE	df	95% CL	
				LL	UL
Meta-perception (Self)	3.97	.16	639	3.66	4.28
Meta-perception (Group)	2.83	.16	639	2.53	3.14
Perception Outgroup (Self)	2.98	.16	639	2.67	3.28
Perception Outgroup (Group)	2.65	.16	639	2.35	2.96
Norms (Media)	3.14	.16	639	2.83	3.44
Norms (Friends)	3.17	.16	639	2.87	3.48
Prejudice (Self)	2.99	.16	639	2.69	3.3
Prejudice (Group)	2.97	.16	639	2.66	3.28
Similarity	4.13	.16	639	3.82	4.43
Difference	3.24	.16	639	2.93	3.55
Group Status	3	.16	639	2.69	3.31

Note. emmeans and SE represent the estimated marginal mean and standard error. LL and UL represent lower and upper bound 95% confidence intervals.

Table 55

Estimated marginal means for each factor when the interaction is between two outgroup members.

Variable	emmean	SE	df	95% CL	
				LL	UL
Meta-perception (Self)	4.09	.15	80	3.79	4.38
Meta-perception (Group)	3.53	.15	80	3.23	3.82
Perception Outgroup (Self)	3.42	.15	80	3.13	3.72
Perception Outgroup (Group)	2.97	.15	80	2.68	3.27
Norms (Media)	3.20	.15	80	2.91	3.5
Norms (Friends)	3.24	.15	80	2.94	3.53
Prejudice (Self)	3.51	.15	80	3.21	3.8
Prejudice (Group)	3.31	.15	80	3.01	3.6
Similarity	3.85	.15	80	3.55	4.14
Difference	3.77	.15	80	3.47	4.06
Group Status	3.88	.15	80	3.58	4.17

Note. emmeans and SE represent the estimated marginal mean and standard error. LL and UL represent lower and upper bound 95% confidence intervals.

Table 56

Results of the linear mixed-effects model comparing factor importance when the interaction is between two outgroup member.

		value	
Predictors	*Estimates*	*CI*	*p*
(Intercept)	4.09	3.79 – 4.38	**<0.001**
Meta-perception (Group)	-0.56	-0.87 – -0.25	**<0.001**
Perception Outgroup (Self)	-0.66	-0.98 – -0.35	**<0.001**
Perception Outgroup (Group)	-1.11	-1.42 – -0.80	**<0.001**
Prejudice (Self)	-0.58	-0.89 – -0.27	**<0.001**
Prejudice (Group)	-0.78	-1.09 – -0.46	**<0.001**
Norms (Media)	-0.88	-1.19 – -0.57	**<0.001**
Norms (Friends)	-0.85	-1.16 – -0.54	**<0.001**
Similarity	-0.24	-0.55 – 0.07	0.136
Difference	-0.32	-0.63 – -0.00	**0.047**
Group Status	-0.21	-0.52 – 0.10	0.185
Random Effects			
σ^2	1.92		
$\tau_{00\ id}$	1.48		
ICC	0.44		
N_{id}	152		
Observations	1672		
Marginal R^2 / Conditional R^2	0.030 / 0.453		

Individual differences

Meta-perception (self).

Table 57

Results of the multiple regression model comparing meta-perception (self) as a function of individual differences.

	Meta-perception (Self)		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	4.16	-5376.96 – 5385.28	0.972
Neg Contact WB	0.03	-100.13 – 100.19	0.318
Neg Contact EA	-0.10	-4487.64 – 4487.44	0.967
Neg Contact WB × Neg Contact EA	-0.00	-100.16 – 100.16	0.318
Pos Contact WB	-0.00	-100.16 – 100.16	0.318
Pos Contact EA	0.07	-100.09 – 100.23	0.389
Pos Contact WB × Pos Contact EA	-0.01	-100.16 – 100.15	0.399
Attitudes EA	0.14	-4279.22 – 4279.51	0.965
Attitudes WB	0.00	-100.16 – 100.16	0.318
Attitudes EA × Attitudes WB	-0.11	-3022.57 – 3022.35	0.951
Observations	612		
R^2 / R^2 adjusted	0.024 / 0.010		

Meta-perception (group).

Table 58

Results of the multiple regression model comparing meta-perception (group) as a function of individual differences.

	Meta-perception (Group)		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	3.13	-474.10 – 480.37	0.770
Neg Contact WB	-0.09	-522.49 – 522.31	0.784
Neg Contact EA	0.16	-6906.92 – 6907.24	0.978
Neg Contact WB × Neg Contact EA	-0.01	-100.17 – 100.15	0.318
Pos Contact WB	-0.07	-100.23 – 100.09	0.367
Pos Contact EA	0.13	-8348.46 – 8348.72	0.982
Pos Contact WB × Pos Contact EA	0.02	-100.14 – 100.18	0.378
Attitudes EA	0.07	-119.73 – 119.87	0.534
Attitudes WB	-0.14	-2372.55 – 2372.27	0.939
Attitudes EA × Attitudes WB	0.00	-100.16 – 100.16	0.367
Observations	612		
R^2 / R^2 adjusted	0.020 / 0.005		

Prejudice (self).

Table 59

Results of the multiple regression model comparing prejudice (self) as a function of individual differences.

	Prejudice (Self)		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	3.57	-96.59 – 103.73	0.457
Neg Contact WB	-0.05	-192.51 – 192.42	0.610
Neg Contact EA	0.19	-9819.37 – 9819.75	0.998
Neg Contact WB x Neg Contact EA	0.00	-100.16 – 100.16	0.318
Pos Contact WB	0.06	-100.10 – 100.22	0.389
Pos Contact EA	0.00	-100.16 – 100.16	0.367
Pos Contact WB x Pos Contact EA	0.01	-100.15 – 100.17	0.318
Attitudes EA	0.02	-100.14 – 100.18	0.318
Attitudes WB	-0.19	-2812.51 – 2812.13	0.948
Attitudes EA x Attitudes WB	-0.08	-100.24 – 100.08	0.327
Observations	612		
R^2 / R^2 adjusted	0.023 / 0.009		

Prejudice (group).

Table 60

Results of the multiple regression model comparing prejudice (group) as a function of individual differences.

	Prejudice (Group)		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	3.32	-1070.94 – 1077.58	0.877
Neg Contact WB	-0.05	-616.72 – 616.62	0.809
Neg Contact EA	0.20	-9819.36 – 9819.76	1.000
Neg Contact WB x Neg Contact EA	0.00	-100.16 – 100.16	0.318
Pos Contact WB	0.09	-229.69 – 229.86	0.645
Pos Contact EA	0.01	-100.15 – 100.17	0.505
Pos Contact WB x Pos Contact EA	0.03	-188.51 – 188.56	0.610
Attitudes EA	0.06	-473.24 – 473.36	0.768
Attitudes WB	-0.22	-752.40 – 751.96	0.835
Attitudes EA x Attitudes WB	-0.08	-100.24 – 100.07	0.445
Observations	612		
R^2 / R^2 adjusted	0.025 / 0.011		

Norms (media).

Table 61

Results of the multiple regression model comparing Norms (media) as a function of individual differences.

	Norm (Media)		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	3.27	-96.89 – 103.43	0.318
Neg Contact WB	0.04	-911.21 – 911.30	0.858
Neg Contact EA	0.09	-744.23 – 744.42	0.833
Neg Contact WB x Neg Contact EA	-0.03	-100.19 – 100.13	0.493
Pos Contact WB	-0.01	-100.17 – 100.15	0.318
Pos Contact EA	0.03	-320.08 – 320.15	0.704
Pos Contact WB x Pos Contact EA	0.04	-100.12 – 100.20	0.318
Attitudes EA	-0.01	-100.17 – 100.15	0.357
Attitudes WB	-0.05	-200.37 – 200.27	0.617
Attitudes EA x Attitudes WB	0.04	-100.12 – 100.20	0.347
Observations	612		
R^2 / R^2 adjusted	0.010 / -0.004		

Norms (friends).

Table 62

Results of the multiple regression model comparing Norms (friends) as a function of individual differences.

	Norms (Friends)		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	3.37	-340.32 – 347.05	0.715
Neg Contact WB	0.04	-1034.94 – 1035.02	0.872
Neg Contact EA	0.12	-3748.99 – 3749.23	0.960
Neg Contact WB × Neg Contact EA	-0.03	-805.24 – 805.17	0.843
Pos Contact WB	0.00	-100.16 – 100.16	0.327
Pos Contact EA	0.04	-1266.69 – 1266.76	0.893
Pos Contact WB × Pos Contact EA	0.03	-1235.27 – 1235.33	0.890
Attitudes EA	-0.04	-186.61 – 186.53	0.606
Attitudes WB	-0.09	-1099.88 – 1099.70	0.879
Attitudes EA × Attitudes WB	0.05	-100.11 – 100.21	0.318
Observations	612		
R^2 / R^2 adjusted	0.015 / -0.000		

Similarity.

Table 63

Results of the multiple regression model comparing similarity as a function of individual differences.

	Similarity		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	4.03	-9815.54 – 9823.59	0.996
Neg Contact WB	-0.03	-306.40 – 306.34	0.696
Neg Contact EA	0.12	-7107.28 – 7107.52	0.978
Neg Contact WB × Neg Contact EA	-0.02	-500.82 – 500.78	0.778
Pos Contact WB	0.06	-327.91 – 328.04	0.706
Pos Contact EA	0.04	-100.12 – 100.20	0.318
Pos Contact WB × Pos Contact EA	0.03	-952.47 – 952.53	0.864
Attitudes EA	-0.01	-100.17 – 100.15	0.318
Attitudes WB	-0.10	-100.26 – 100.06	0.318
Attitudes EA × Attitudes WB	-0.15	-6785.47 – 6785.17	0.977
Observations	612		
R^2 / R^2 adjusted	0.020 / 0.005		

Difference.

Table 64

Results of the multiple regression model comparing difference as a function of individual differences.

	Difference		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	3.88	-96.28 – 104.04	0.318
Neg Contact WB	-0.06	-324.10 – 323.99	0.703
Neg Contact EA	0.22	-9819.34 – 9819.79	0.996
Neg Contact WB x Neg Contact EA	-0.06	-3515.46 – 3515.34	0.958
Pos Contact WB	-0.03	-563.67 – 563.62	0.794
Pos Contact EA	0.04	-396.67 – 396.75	0.740
Pos Contact WB x Pos Contact EA	0.01	-100.15 – 100.17	0.318
Attitudes EA	0.10	-375.01 – 375.21	0.730
Attitudes WB	-0.03	-110.01 – 109.95	0.521
Attitudes EA x Attitudes WB	-0.08	-100.23 – 100.08	0.318
Observations	612		
R^2 / R^2 adjusted	0.020 / 0.005		

Group status.

Table 65

Results of the multiple regression model comparing group status as a function of individual differences.

	Group Status		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	3.62	-5677.98 – 5685.22	0.973
Neg Contact WB	-0.04	-652.06 – 651.98	0.817
Neg Contact EA	0.21	-9819.36 – 9819.77	0.986
Neg Contact WB × Neg Contact EA	-0.06	-544.06 – 543.94	0.789
Pos Contact WB	0.12	-1225.36 – 1225.60	0.889
Pos Contact EA	-0.06	-789.55 – 789.44	0.840
Pos Contact WB × Pos Contact EA	0.03	-803.21 – 803.27	0.843
Attitudes EA	0.20	-178.52 – 178.92	0.598
Attitudes WB	-0.06	-347.67 – 347.55	0.718
Attitudes EA × Attitudes WB	-0.06	-1469.07 – 1468.94	0.905
Observations	612		
R^2 / R^2 adjusted	0.016 / 0.001		

Perception of the outgroup (Group).

Table 66

Results of the multiple regression model comparing perception of the outgroup (group) as a function of individual differences.

	Perception Outgroup (Group)		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	2.70	-97.46 – 102.86	0.457
Neg Contact WB	-0.11	-9819.67 – 9819.45	1.000
Neg Contact EA	0.19	-9819.37 – 9819.75	0.997
Neg Contact WB — Neg Contact EA	-0.05	-3073.57 – 3073.47	0.952
Pos Contact WB	-0.21	-9819.77 – 9819.36	0.995
Pos Contact EA	0.14	-284.63 – 284.91	0.679
Pos Contact WB — Pos Contact EA	-0.00	-100.16 – 100.16	0.318
Attitudes EA	-0.05	-100.21 – 100.11	0.318
Attitudes WB	-0.06	-100.22 – 100.10	0.347
Attitudes EA — Attitudes WB	0.14	-9135.99 – 9136.26	0.983
Observations	612		
R^2 / R^2 adjusted	0.041 / 0.027		

Perception of the outgroup (Self).

Table 67

Results of the multiple regression model comparing perception of the outgroup (self) as a function of individual differences.

	Perception Outgroup (Self)		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	3.16	-104.85 – 111.18	0.513
Neg Contact WB	-0.14	-9819.70 – 9819.43	0.989
Neg Contact EA	0.20	-9819.36 – 9819.77	1.000
Neg Contact WB x Neg Contact EA	-0.02	-100.18 – 100.14	0.318
Pos Contact WB	-0.21	-9819.78 – 9819.35	1.000
Pos Contact EA	0.17	-9819.39 – 9819.73	1.000
Pos Contact WB x Pos Contact EA	-0.04	-100.20 – 100.12	0.505
Attitudes EA	-0.14	-3250.42 – 3250.13	0.954
Attitudes WB	-0.01	-117.84 – 117.83	0.527
Attitudes EA x Attitudes WB	0.10	-514.45 – 514.64	0.781
Observations	612		
R^2 / R^2 adjusted	0.048 / 0.033		

Additional tables (e.g., pairwise comparison

Pairwise comparison tables for all models, as well as the table summarising the linear mixed effect model for Study 1-part 1 (open question), have been included as an external file. In the published version of this thesis, a link and reference to an open science framework file will be included.

Appendix E
Material Studies 2, 3 and 4

Main material

The following measures were collected in studies 2, 3 and 4 and used to test the Perception-norm model. Measures are multiple choices or 7-point scales unless said otherwise.

Political affiliation.

People can have a variety of political opinions. Even if you don't consider yourself a Republican or Democrat - if you had to pick between the two, which party is closer to your politics and beliefs?

- Democrat
- Republican

Ethnicity/Race.

Please indicate your ethnicity (i.e. peoples' ethnicity describes their feeling of belonging and attachment to a distinct group of a larger population that shares their ancestry, colour, language or religion)?

- African
- Black or African American
- Caribbean
- East Asian
- Latino/Hispanic
- Middle Eastern
- Mixed
- Native American or Alaskan Native
- South Asian
- White/Caucasian
- Other (please describe)
- White/Sephardic Jew
- Black/British
- White Mexican
- Romani/Traveller
- South East Asian

Past Contact experience.

On average, how frequently did you have [negative/bad or positive/good] contact with [ingroup/outgroup]? (Scored from 1 = never to 7 = extremely frequently). Note that contact can happen in real life but also on the internet.

Ingroup identification.

How important to your self-identity is being a [ingroup]?(Scored from 1 = Not at all to 7 = Very much). Other items are:

- To what extent do you consider yourself similar to other [ingroup]s?
- How attached are you to the [ingroup]group?

Contact intention.

Thinking about the next time you find yourself in a situation where you could interact with a [outgroup] (e.g., waiting in line for a bus, with friends in a café, etc.):

- How likely do you think it is that you would strike up a conversation? (1 = Not at all to 7 = Highly likely)

  Other items are:

- How interested would you be in striking up a conversation?
- How much do you think you would like to strike up a conversation?

  And in general,

- How much do you intend to interact with a [outgroup] in the future?
- How much do you expect to enjoy interacting with a [outgroup] in the future?
- How important do you think it is to interact with [outgroup]s?
- How willing would you be to participate in a discussion group that includes both [ingroup]s and [outgroup]s, that will focus on political topics?"

Meta-perception/Perception of the outgroup.

In general, [outgroup]s tend to see [me/ingroup] as ... In general, [outgroup]s tend to be ... Note: Study 2 and 3 considered meta-perception (self and group), perception of the outgroup. Study 4 considered: self-perception, perception of the ingroup, perception of the outgroup, self meta-perception (being perceived by the outgroup, by the ingroup), and group meta-perception.

Item in study 2 and study 3 were: Pleasant - Unpleasant; Warm - Cold; Peaceful - Aggressive; Friendly - Hostile; Honest - Dishonest; Highly skilled - Unskilled; Hard working - Lazy; Respectable - Contemptible; Moral - Immoral; Intelligent - Unintelligent; Positive - Negative.

Item in study 4 were: Prejudiced - Unprejudiced; Competent - Incompetent; Moral - Immoral; Positive - Negative; Warm - Cold; Supporting WHITE people's rights and protection - NOT supporting WHITE people's rights and protection; Finding it a positive thing to have WHITE people as friends - NOT finding it a positive thing to have WHITE people as friends; Feeling comfortable with WHITE people in general - NOT feeling comfortable with WHITE people in general.

Ingroup and outgroup contact norms.

To what extent do you think [ingroup/outgroup] consider it positive to have [outgroup/ingroup] as friends?

To what extent do you think [ingroup/outgroup] would feel comfortable with [outgroup/ingroup] in general?

Political environment (study 3 only).

The following questions asks about your personal opinion and habits.

How much do/did you watch, listen to the following radio, or read media from the following sources? How often do you watch the following television programmes? How much do you patronise the following companies? Do you follow any of the following? (see Table 11).

Additional material

Here is the list of the additional measures that were collected but not included in the analysis presented in this thesis. Measures are multiple choices or 7-point scales unless said otherwise. Between brackets is the number of the study it was included in (i.e., 2, 3 or 4).

Contact opportunity (2, 3, 4).

In the the location where you live, do you think there are more [outgroup], more [ingroup], or about equal numbers of both?

Vote (2, 3).

Are you registered to vote in the United States? Did you [already] vote in the 2020 US Presidential election? Who did you vote for? If the US Presidential Election were held today, who would you vote for?

Election legitimacy (3).

In the 2020 US presidential election, Joe Biden defeated Donald Trump by 306 electoral votes to 232. Biden also had a 7,052,770 advantage in the popular vote.

To what extent do you think Joe Biden's electoral victory was legitimate?

State (2, 3, 4).

In which state do you currently reside? [drop down choice]

Contact engagement (2, 3).

Do you have a romantic partner with different political views than your own (i.e. [outgroup])? If yes, do you discuss with him/her your differing political views?

- Friends
- Relatives
- Coworkers

- Supervisors or bosses

Prototypicality (2, 3, 4).

Created for the purpose of this study | Present in study 2, 3 and for | Number of itmes: 2*3

Do you consider yourself as a typical [ingroup]?

Favouritism (2, 3.

To what extent do you, in general, personally favor [ingroup/outgroup] over [outgroup/ingroup]? To what extent do you think, in general, the average [ingroup] favors [ingroup] over [outgroup]?

Avoidance (2, 3, 4).

I would want to avoid interacting with [outgroup].

I would prefer not to interact with [outgroup].

Future contact (4).

How interested will you be in having [outgroup] members as:

- Friends
- Partner
- Co-workers
- Supervisors
- Employee in the business I frequent
- In my church

How interested will you be in the following action:

- Face-to-face interactions with [outgroup] members (e.g. discussion at the till at the shop).

- Online contact with [outgroup] members (e.g. through comments or private messages on social media)
- Watching media content about the outgroup (e.g. tv show with members of the outgroup as main characters; following outgroup members on social media)
- Taking part in collective actions supporting the rights and protection of the outgroup.

Evaluative concerns (2, 3, 4).

How interested are you in being accepted by [outgroup]s? How afraid are you that [outgroup]s will not like you? Do you think that [outgroup]s will accept you as a friend?

Emotions (2,3).

Please indicate how much the below feelings apply to you when you interact with a [outgroup].

- Anxious
- Angry
- Comfortable
- Sad
- Avoidant
- Empathic

Meta-Prejudice/Perception of outgroup prejudice (2, 3).

To what extent do you believe the average [outgroup] views you to be prejudiced against [outgroup]s? To what extent do you believe the average [ingroup/outgroup] views [outgroup/ingroup]s to be prejudiced against [ingorup/outgroup]?

Prejudice norms (3, 4).

How much it is acceptable for [ingroup/outgroup] to express negative feelings toward [outgroup/ingroup]?

Legal and mediatic normative context (4).

The following questions are about your perception of the legal and media context. Indicate to what extent to you agree with the following statements:

Legal normative context.

- The legal system provides enough support for [ingroup/outgroup] people's rights.
- The legal system provides sufficient protection against discrimination toward [ingroup/outgroup] people.
- The legal system provides appropriate responses to offences and hate crimes perpetrated against [ingroup/outgroup] people.

Mediatic normative context.

- There is a large enough number of [ingroup/outgroup] people represented in the News media.
- (ingroup/outgroup) people are correctly represented in the News media.
- There is a large enough number of [ingroup/outgroup] people represented in the General media.
- (ingroup/outgroup) people are correctly represented in the General media.
- There is a large enough number of [ingroup/outgroup] people represented in Social media.
- (ingroup/outgroup) people are correctly represented in Social media.

Feeling Thermometer (2).

Below is something that look like a thermometer. We call it a "feeling thermometer" because it measures your feelings towards groups. Here's how it works. If you don't know too much about a group, or don't feel particularly warm or cold toward them, then you should place them in the middle at the 50 degree mark. If you have warm feeling toward a group, or feel favourably toward it, you would give it a score somewhere between 50 and

100 depending on how warm your feeling is toward the group. On the other hand, if you don't feel very favourably toward some of these groups – if there are some you don't care too much – then you would place them somewhere between the 0 and 50) marks. How do you feel towards [below group] people?

- Ingroup and Outgroup
- Donald Trump
- Obama
- Biden
- Mike Pence
- Black Lives Matter
- Fox News
- ANTIFA
- NRA
- Republicans in general
- Democrats in general
- Immigrants?

Policies opinion/support (2, 3).

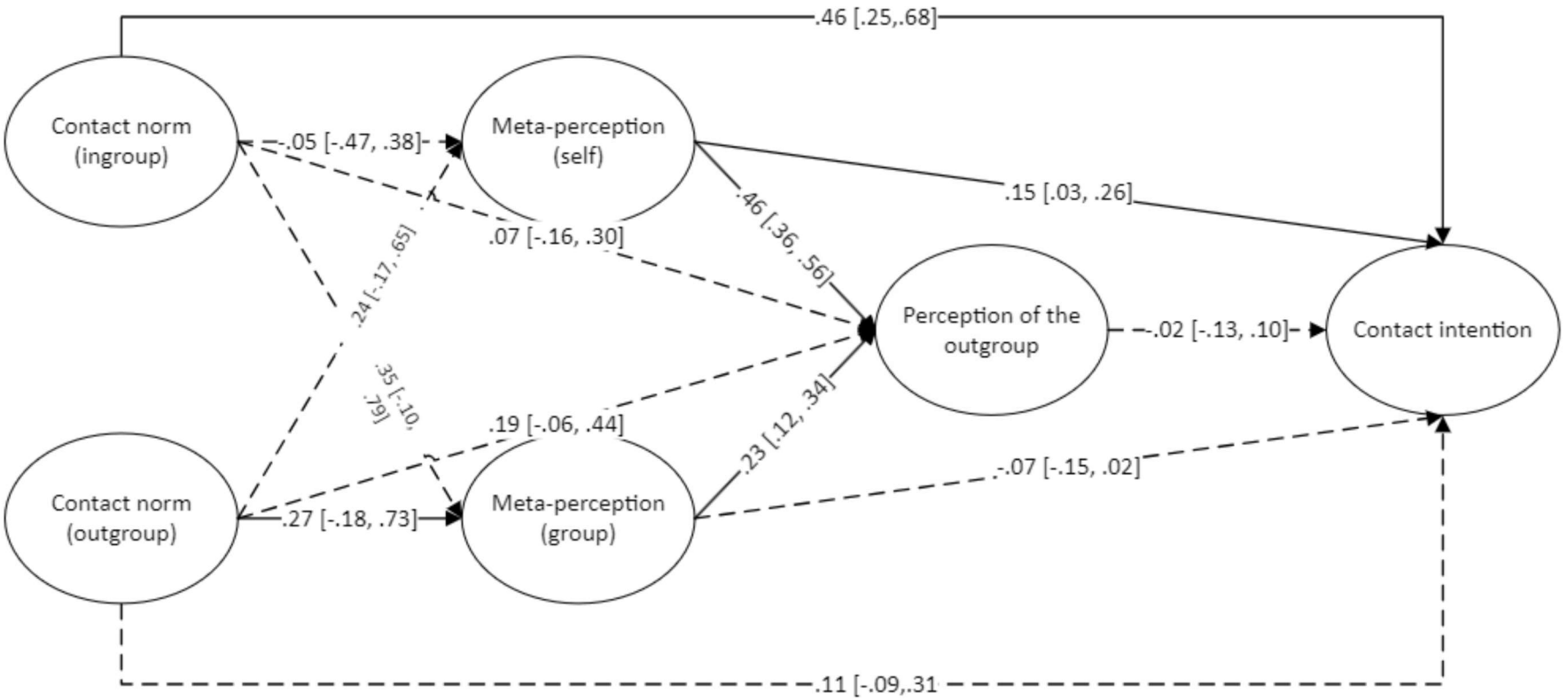
What is your opinion on each of the following topics, from 0 (strongly oppose) to 100 (strongly support)? / We are interested in how people perceive the opinions of their groups and other groups. What do you think the Average [ingroup/outgroup]s opinion is on each of the following topics, from 0 (strongly oppose) to 100 (strongly support)?

- Legalization of same-sex marriage,
- Affordable care act (Obamacare),
- Overturning Roe v Wade,
- Building the Border Wall with Mexico,
- Green New Deal,
- Black Lives Matter,
- Trump's Tax Cut Plan,
- MeToo Movement,
- Mask-Wearing Requirements.

Appendix F
Alternative model for SEM analysis of studies 2, 3 and 4

Figure 14

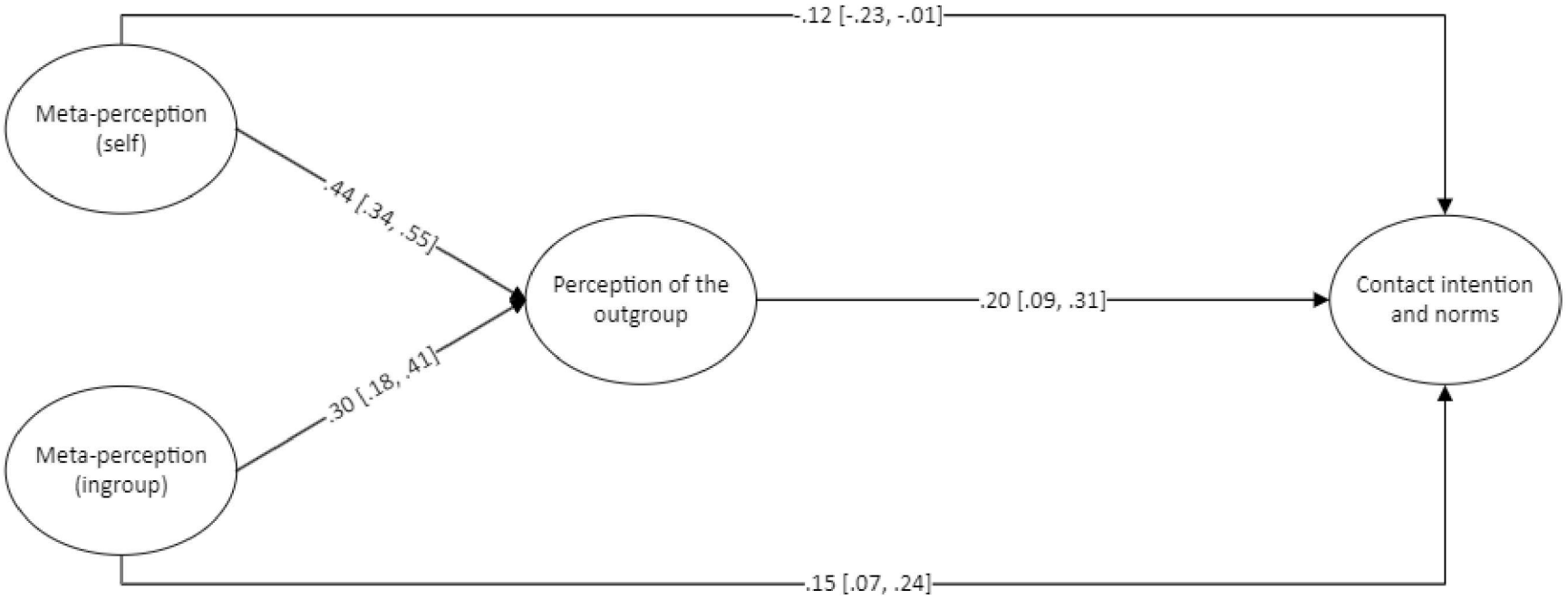
Empirical fit of alternative structural equation model to the Perception-norm model with contact norms as the first predictors.



Note. All paths except the dashed lines are significant. Coefficients are standardized, 95% confidence intervals are reported in square brackets. The measurement model is the same as for the Perception-norm model in Study 2. Robust $\chi^2(1269) = 20336$, $p < .001$, *robust RMSEA = .06, 90% CI [0.05, 0.06], SRMR = .17, robust CFI = .93. Non-nested likelihood ratio test (Perception-norm model fit better than alternative) z=4.164, p<.001; and variance test (Perception-norm model and alternative are distinguishable):* w^2*=1.982, p<.001.*

Figure 15

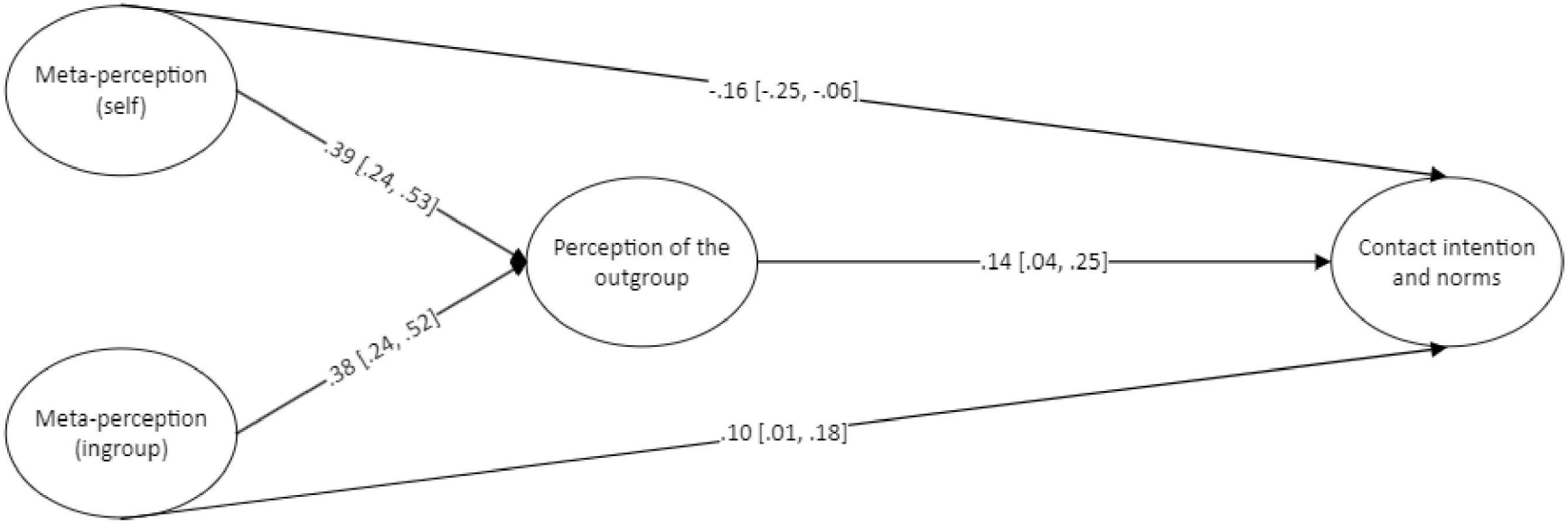
Empirical fit of alternative structural equation model to the Perception-norm model with contact norm and contact intention as one latent factor (Study 2).



Note.All paths except the dashed lines are significant. Coefficients are standardized, 95% confidence intervals are reported in square brackets. The measurement model is the same as for the Perception-norm model in Study 2. Robust $\chi^2(1269) = 20336$, $p < .001$, robust RMSEA = .05, 90% CI [0.04, 0.06], SRMR = .11, robust CFI = .94. Non-nested likelihood ratio test: 1) Perception-norm model fit better than alternative: z=.312, p=.38; 2) Alternative model fit better than Perception-norm model: z=.312, p=.62; and variance test (Perception-norm model and alternative are distinguishable): w^2=0.92, p<.001.

Figure 16

Empirical fit of alternative structural equation model to the Perception-norm model with contact norm and contact intention as one latent factor (Study 3).

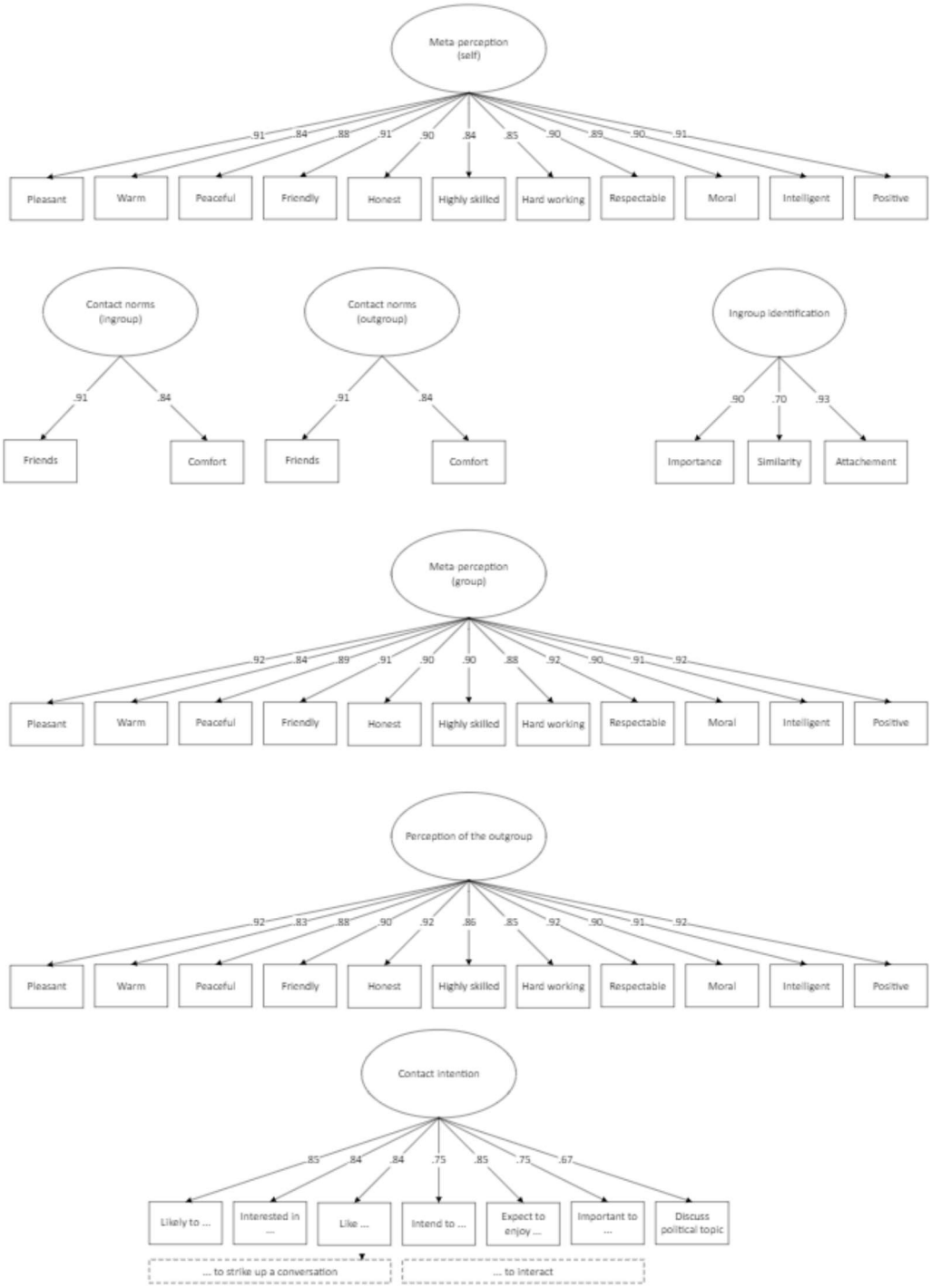


Note.All paths except the dashed lines are significant. Coefficients are standardized, 95% confidence intervals are reported in square brackets. The measurement model is the same as for the Perception-norm model in Study 2. Robust $\chi^2(1202) = 1976.293$, $p < .001$, robust RMSEA = .05, 90% CI [0.04, 0.05], SRMR = .10, robust CFI = .94. Model reveal negative variance. Consequently, comparison tests were impossible and further investigation confirmed to keep the Perception-norm as originally hypothesised.

Appendix G
Measurement model for SEM analysis of studies 2, 3 and 4

Figure 17

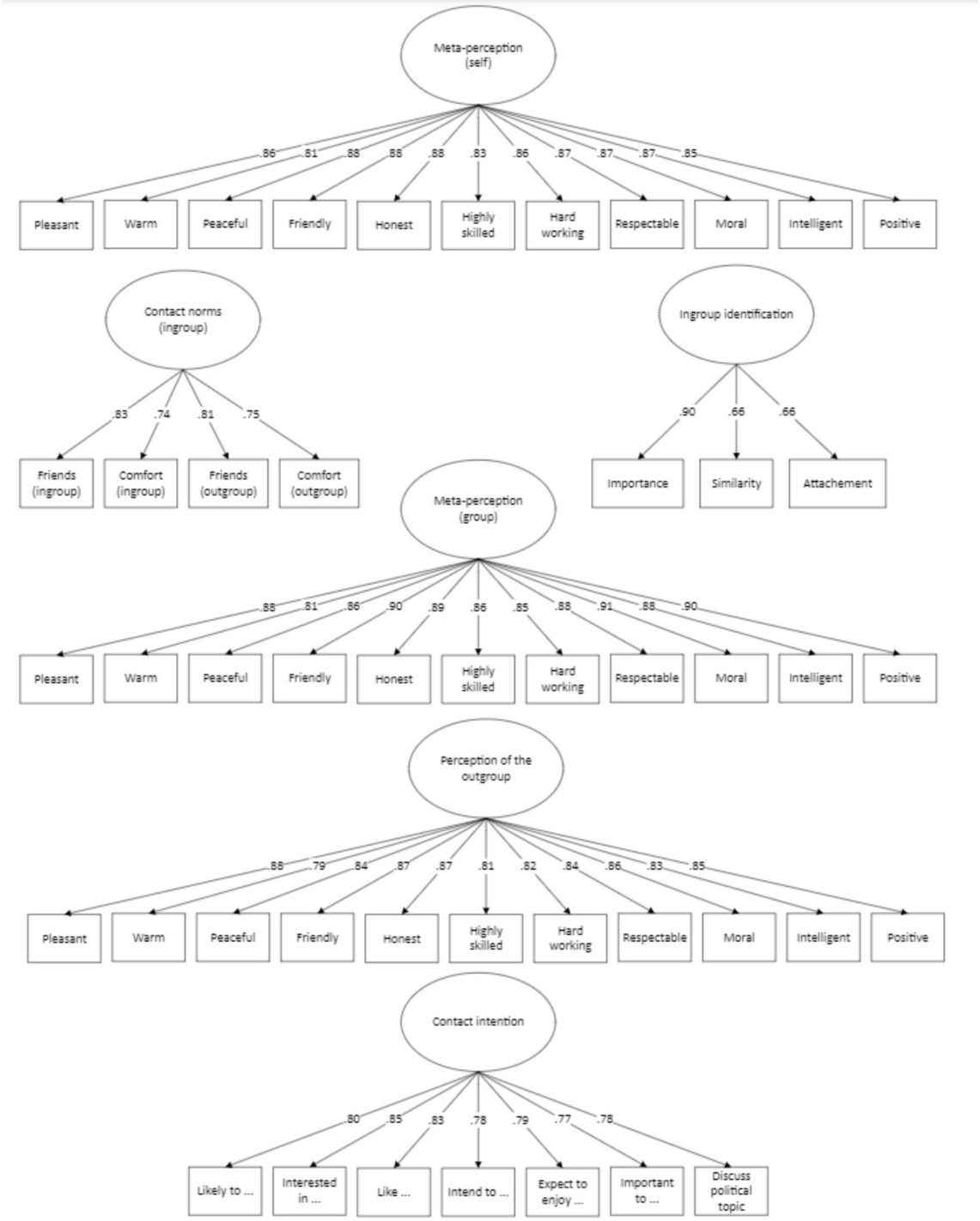
Measurement model, empirical fit for a model with all factors (Study 2).



Note. Fit statistics: robust$\chi^2(1011) = 2008.397$, $p < .000$, robust RMSEA = .05, 90% CI [0.04, 0.05], SRMR = .04, robust CFI = .96. Note. Coefficients are standardized

Figure 18

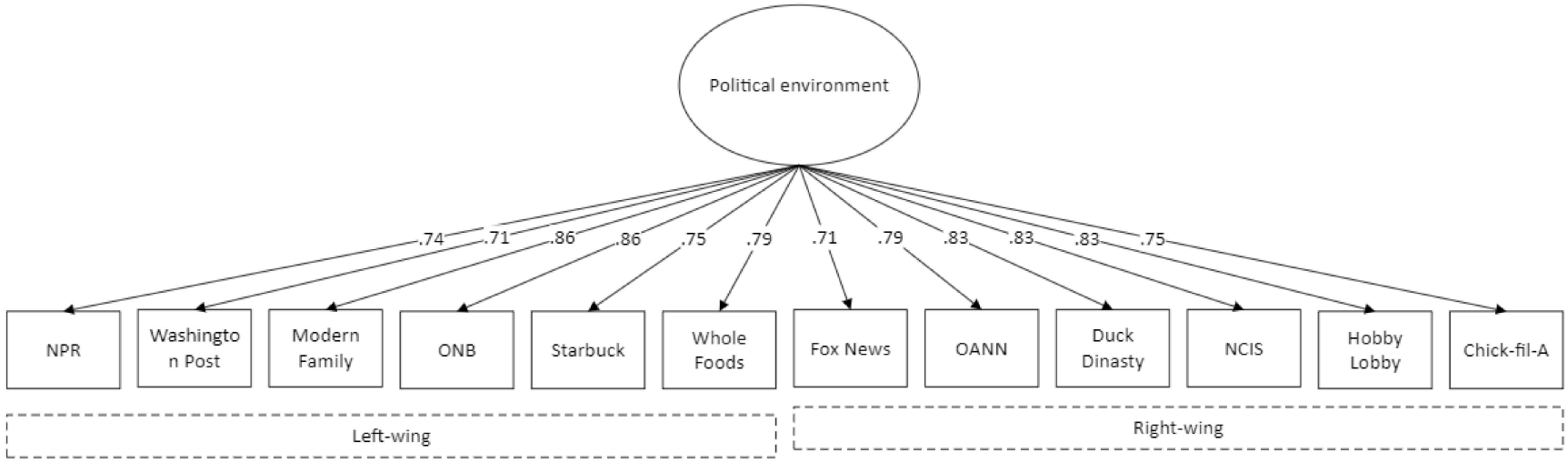
Measurement model, empirical fit for a model with all factors (Study 3 - General).



Note. Fit statistics: robust $\chi^2(1017) = 1772.035$, $p < .001$, robust RMSEA = .05, 90% CI [0.05, 0.06], SRMR = .04, robust CFI = .95. Note. Coefficients are standardized

Figure 19

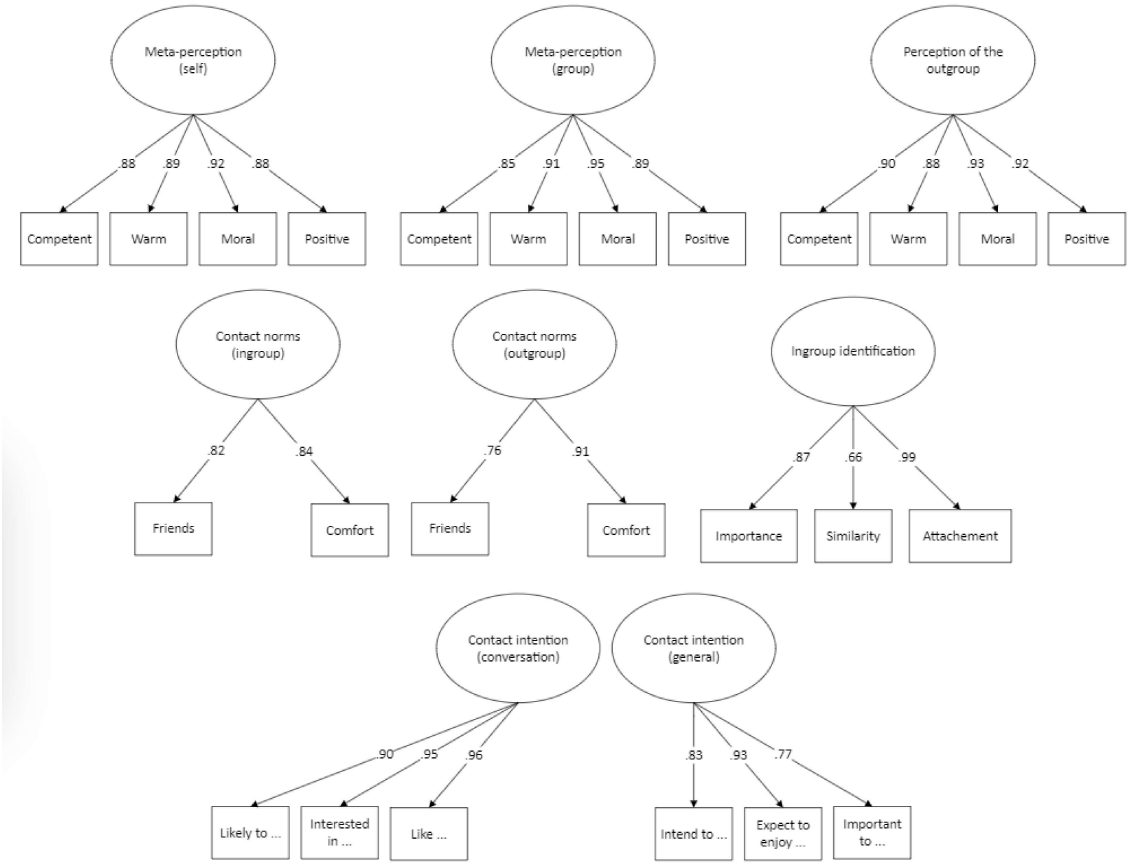
Measurement model, empirical fit for a model with all factors (Study 3 - Political environment).



Note. Fit statistics: robust $\chi^2(1629) = 2721.803$, $p < .001$, robust RMSEA = .04, 90% CI [0.04, 0.06], SRMR = .04, robust CFI = .94. Note. Coefficients are standardized. All other latent factors are identical to the general measurement model for Study 3.

Figure 20

Measurement model, empirical fit for a model with all factors (Study 4).



Note. Fit statistics: robust $\chi^2(247) = 575.654$, $p < .001$, *robust RMSEA = .06, 90% CI [0.05, 0.06], SRMR = .04, robust CFI = .96. Note. Coefficients are standardized*

Appendix H
Additional correlation tables for Study 2, 3 and 4

Table 68

Descriptive statistics and correlations with 95% confidence intervals for the variable for Democrats (Study 2)

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. Negative contact (ingroup)	3.62	1.75										
2. Positive contact (ingroup)	5.34	1.05	-.13 [-.26, .01]									
3. Negative contact (outgroup)	4.51	1.31	.30** [.17, .42]	.25** [.12, .37]								
4. Positive contact (outgroup)	4.17	1.52	.62** [.53, .70]	.12 [-.01, .25]	.03 [-.11, .16]							
5. Meta-perception (self)	4.18	1.42	.05 [-.09, .18]	.18** [.05, .31]	-.18** [-.31, -.04]	.28** [.15, .40]						
6. Meta-perception (group)	3.98	1.62	.13 [-.00, .27]	.15* [.02, .28]	-.06 [-.20, .07]	.31** [.18, .43]	.54** [.43, .63]					
7. Perception of the outgroup	3.77	1.47	.33** [.21, .45]	-.02 [-.16, .11]	-.16* [-.29, -.03]	.48** [.36, .57]	.62** [.53, .70]	.59** [.49, .67]				
8. Contact norms (ingroup)	4.80	1.42	.41** [.29, .51]	.10 [-.04, .23]	-.04 [-.18, .09]	.59** [.50, .68]	.21** [.07, .33]	.49** [.38, .59]	.45** [.34, .55]			
9. Contact norms (outgroup)	4.50	1.53	.55** [.45, .64]	.09 [-.04, .23]	.05 [-.08, .19]	.65** [.57, .72]	.20** [.07, .33]	.37** [.25, .48]	.45** [.34, .56]	.74** [.67, .79]		
10. Contact intention	4.68	1.37	.47** [.36, .57]	.15* [.02, .28]	-.06 [-.19, .08]	.71** [.64, .77]	.34** [.21, .45]	.40** [.28, .51]	.48** [.36, .58]	.70** [.62, .76]	.65** [.57, .72]	
11. Ingroup identification	5.17	1.37	.10 [-.04, .23]	.47** [.35, .57]	.21** [.07, .33]	.24** [.11, .37]	.10 [-.03, .24]	.25** [.12, .38]	.07 [-.07, .20]	.34** [.22, .46]	.33** [.20, .44]	.36** [.24, .47]

*Note. **p > 0.01 level (2-tailed), *P > 0.05 level (2-tailed). The 11 items for meta-perception (self and group) and perception of the outgroup, the two items for contact norms (ingroup and outgroup) and the seven items for contact intention were averaged to create means scores used to compute these correlations.*

Table 69

Descriptive statistics and correlations with 95% confidence intervals for the variable for Republicans (Study 2)

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. Negative contact (ingroup)	3.80	1.88										
2. Positive contact (ingroup)	5.46	1.09	-.02 [-.17, .14]									
3. Negative contact (outgroup)	4.40	1.54	.62** [.52, .71]	.20** [.05, .35]								
4. Positive contact (outgroup)	4.64	1.46	.47** [.35, .58]	.18* [.02, .32]	.18* [.03, .33]							
5. Meta-perception (self)	4.50	1.54	.08 [-.08, .23]	.02 [-.13, .18]	-.10 [-.25, .05]	.38** [.25, .51]						
6. Meta-perception (group)	3.89	1.69	.32** [.18, .45]	-.13 [-.27, .03]	.18* [.03, .32]	.41** [.27, .53]	.56** [.45, .66]					
7. Perception of the outgroup	4.02	1.62	.28** [.14, .42]	-.08 [-.23, .07]	.07 [-.08, .22]	.52** [.40, .62]	.72** [.64, .79]	.69** [.61, .77]				
8. Contact norms (ingroup)	5.02	1.50	.41** [.27, .53]	.02 [-.13, .17]	.31** [.16, .44]	.63** [.53, .72]	.22** [.07, .36]	.48** [.35, .59]	.48** [.36, .59]			
9. Contact norms (outgroup)	4.55	1.66	.60** [.49, .69]	-.05 [-.20, .10]	.36** [.22, .49]	.70** [.61, .77]	.32** [.17, .45]	.56** [.45, .66]	.60** [.49, .69]	.76** [.68, .81]		
10. Contact intention	4.80	1.38	.41** [.36, .57]	.04 [.02, .28]	.21** [-.19, .08]	.72** [.64, .77]	.39** [.21, .45]	.44** [.28, .51]	.54** [.36, .58]	.76** [.62, .76]	.75** [.57, .72]	
11. Ingroup identification	5.17	1.37	.10 [-.04, .23]	.47** [.35, .57]	.21** [.07, .33]	.24** [.11, .37]	.10 [-.03, .24]	.25** [.12, .38]	.07 [-.07, .20]	.34** [.22, .46]	.33** [.20, .44]	.36** [.24, .47]

*Note. **p > 0.01 level (2-tailed), *P > 0.05 level (2-tailed). The 11 items for meta-perception (self and group) and perception of the outgroup, the two items for contact norms (ingroup and outgroup) and the seven items for contact intention were averaged to create means scores used to compute these correlations.*

Table 70

Descriptive statistics and correlations with 95% confidence intervals for the variable for Democrats (Study 3)

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. Negative contact (ingroup)	4.04	1.63										
2. Positive contact (ingroup)	5.27	1.05	.05 [-.08, .17]									
3. Negative contact (outgroup)	4.53	1.30	.43** [.32, .53]	.31** [.19, .42]								
4. Positive contact (outgroup)	4.57	1.41	.66** [.59, .73]	.23** [.10, .34]	.16* [.03, .28]							
5. Meta-perception (self)	4.24	1.55	.16* [.03, .28]	.16* [.04, .29]	-.05 [-.18, .07]	.28** [.16, .40]						
6. Meta-perception (group)	4.21	1.64	.30** [.18, .41]	.12 [-.00, .25]	-.01 [-.14, .12]	.35** [.23, .46]	.65** [.57, .72]					
7. Perception of the outgroup	3.97	1.51	.28** [.14, .40]	.05 [-.08, .19]	-.06 [-.20, .08]	.34** [.22, .46]	.70** [.63, .77]	.70** [.62, .76]				
8. Contact norms	4.94	1.23	.59** [.49, .66]	.16* [.03, .28]	.08 [-.05, .20]	.67** [.60, .74]	.27** [.15, .39]	.42** [.31, .52]	.40** [.28, .51]			
9. Contact intention	4.89	1.34	.61** [.52, .68]	.18** [.06, .31]	.16* [.03, .29]	.68** [.60, .74]	.25** [.13, .37]	.33** [.21, .44]	.44** [.32, .54]	.81** [.76, .85]		
10. Ingroup identification	5.34	1.17	.36** [.24, .47]	.35** [.23, .46]	.30** [.18, .41]	.36** [.24, .46]	.09 [-.04, .21]	.25** [.12, .36]	.16* [.02, .29]	.56** [.46, .64]	.44** [.33, .54]	
11. Political environment	4.60	1.49	.68** [.60, .74]	.18** [.05, .30]	.22** [.10, .34]	.67** [.59, .73]	.14* [.01, .26]	.38** [.26, .48]	.36** [.24, .48]	.76** [.70, .81]	.78** [.72, .82]	.58** [.49, .66]

*Note. **p > 0.01 level (2-tailed), *P > 0.05 level (2-tailed). The 11 items for meta-perception (self and group) and perception of the outgroup, the two items for contact norms (ingroup and outgroup, i.e., those items were combined to create a general contact norms score), the seven items for contact intention and the ten items for political environment (with left-wing items reverse coded) were averaged to create means scores used to compute these correlations.*

Table 71

Descriptive statistics and correlations with 95% confidence intervals for the variable for Republicans (Study 3)

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. Negative contact (ingroup)	4.14	1.82										
2. Positive contact (ingroup)	5.44	1.22	.13 [-.07, .32]									
3. Negative contact (outgroup)	4.40	1.55	.60** [.46, .72]	.27** [.08, .45]								
4. Positive contact (outgroup)	4.91	1.44	.51** [.34, .64]	.45** [.28, .60]	.31** [.12, .48]							
5. Meta-perception (self)	4.35	1.48	.02 [-.18, .22]	.20* [.00, .39]	-.00 [-.20, .20]	.10 [-.10, .29]						
6. Meta-perception (group)	3.87	1.75	.25* [.05, .43]	.20 [-.00, .39]	.22* [.02, .41]	.39** [.21, .55]	.50** [.34, .64]					
7. Perception of the outgroup	3.88	1.51	.28** [.07, .46]	.20 [-.02, .39]	.10 [-.12, .30]	.46** [.28, .61]	.50** [.32, .64]	.61** [.46, .73]				
8. Contact norms	4.92	1.33	.55** [.39, .68]	.27** [.07, .45]	.41** [.23, .57]	.66** [.53, .76]	.00 [-.20, .20]	.49** [.32, .63]	.39** [.19, .56]			
9. Contact intention	4.96	1.36	.50** [.33, .63]	.35** [.16, .51]	.32** [.12, .49]	.71** [.59, .80]	-.06 [-.25, .15]	.40** [.21, .56]	.40** [.20, .56]	.80** [.71, .86]		
10. Ingroup identification	5.23	1.54	.36** [.18, .52]	.36** [.18, .52]	.56** [.40, .68]	.25* [.06, .43]	.07 [-.13, .26]	.30** [.11, .47]	.09 [-.13, .29]	.45** [.28, .60]	.31** [.12, .48]	
11. Political environment	4.51	1.61	.69** [.56, .78]	.22* [.02, .41]	.57** [.42, .70]	.54** [.38, .67]	-.09 [-.29, .12]	.36** [.16, .52]	.21 [-.00, .41]	.82** [.74, .88]	.69** [.56, .78]	.72** [.60, .80]

*Note. **p > 0.01 level (2-tailed), *P > 0.05 level (2-tailed). The 11 items for meta-perception (self and group) and perception of the outgroup, the two items for contact norms (ingroup and outgroup, i.e., those items were combined to create a general contact norms score), the seven items for contact intention and the ten items for political environment (with left-wing items reverse coded) were averaged to create means scores used to compute these correlations.*

Table 72

Descriptive statistics and correlations with 95% confidence intervals for the variable (Study 4).

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11
1. Negative contact (ingroup)	2.79	1.31											
2. Positive contact (ingroup)	3.31	1.45	.11* [.01, .21]										
3. Negative contact (outgroup)	5.12	1.27	-.45** [-.53, -.36]	-.05 [-.16, .05]									
4. Positive contact (outgroup)	5.39	1.19	-.06 [-.16, .04]	-.37** [-.46, -.28]	.44** [.35, .52]								
5. Meta-perception (self)	4.94	1.34	-.31** [-.40, -.21]	-.06 [-.16, .04]	.51** [.44, .59]	.28** [.18, .37]							
6. Meta-perception (group)	3.82	1.38	-.22** [-.32, -.12]	-.20** [-.29, -.10]	.28** [.18, .37]	.11* [.01, .21]	.50** [.42, .58]						
7. Perception of the outgroup	4.99	1.25	-.42** [-.50, -.33]	.08 [-.02, .18]	.51** [.43, .58]	.13* [.02, .23]	.59** [.52, .65]	.48** [.40, .56]					
8. Contact norms (ingroup)	4.69	1.21	-.16** [-.26, -.05]	-.12* [-.22, -.02]	.22** [.12, .31]	.23** [.13, .32]	.32** [.23, .41]	.38** [.29, .46]	.31** [.21, .40]				
9. Contact norms (outgroup)	4.40	1.28	-.23** [-.33, -.13]	-.08 [-.18, .02]	.25** [.15, .34]	.10 [-.01, .20]	.40** [.31, .48]	.48** [.40, .56]	.35** [.26, .44]	.35** [.25, .44]			
10. Contact intention (conversation)	4.23	1.74	-.19** [-.28, -.08]	.00 [-.10, .10]	.42** [.33, .50]	.21** [.11, .31]	.38** [.29, .47]	.30** [.21, .39]	.45** [.36, .52]	.24** [.14, .33]	.26** [.17, .36]		
11. Contact intention (general)	5.35	1.33	-.36** [-.44, -.26]	.10 [-.01, .20]	.60** [.53, .66]	.22** [.12, .31]	.50** [.42, .57]	.28** [.18, .37]	.63** [.57, .69]	.29** [.19, .38]	.34** [.24, .43]	.63** [.56, .69]	
12. Ingroup identification	4.39	1.78	.32** [.22, .41]	-.45** [-.53, -.37]	-.11* [-.21, -.00]	.34** [.24, .43]	-.07 [-.17, .03]	.09 [-.01, .19]	-.22** [-.32, -.12]	.05 [-.05, .16]	-.01 [-.11, .10]	-.01 [-.11, .09]	-.24** [-.34, -.14]

*Note. **p > 0.01 level (2-tailed), *P > 0.05 level (2-tailed). The 4 items for meta-perception (self and group) and perception of the outgroup, the two items for contact norms (ingroup and outgroup) and the six items for contact intention (i.e., divided into two scores: conversation - first three items; and general - last three item, the seventh item about discussing race was excluded) were averaged to create means scores used to compute these correlations.*

Appendix I

Table of estimate for all the covariates for Study 2, 3 and 4

Table 73

The summary of the direct effects of the covariates (ingroup identification and positive and negative contact with the ingroup and the outgroup) on contact intention, contact norms and perception of the outgroup (Study 2).

Outcome variable	Covariates																					
	Ingroup identification				Negative contact (outgroup)				Positive contact (outgroup)				Negative contact (ingroup)				Positive contact (ingroup)			
			Confidence interval (95%)				Confidence interval (95%)				Confidence interval (95%)				Confidence interval (95%)				Confidence interval (95%)	
	Estimate	*p*	L	U	Estimate	*p*	L	U	Estimate	*p*	L	U	Estimate	*p*	L	U	Estimate	*p*	L	U
Contact intention	.10	.91	-.09	.11	-.06	.17	-.15	.03	.21	.001	.08	.34	.01	.83	-.08	.01	.02	.72	-.08	.11
Contact norms (ingroup)	.25	.001	.12	.37	-.02	.70	-.13	.09	.45	.001	.34	.56	.01	.84	-.09	.11	-.09	.15	-.20	.03
Contact norms (outgroup)	.20	.003	.07	.33	.02	.74	-.10	.14	.42	.001	.30	.54	.20	.001	.09	.32	-.09	.14	-.21	.03
Perception of the outgroup	-.04	.46	-.14	.06	-.05	.29	-.14	.04	.21	.001	.12	.31	.11	.004	.03	.18	-.15	.01	-.25	-.04

Table 74

The summary of the direct effects of the covariates (ingroup identification and positive and negative contact with the ingroup and the outgroup) on contact intention, contact norms and perception of the outgroup (Study 3a).

Outcome variable	Covariates																			
	Ingroup identification				Negative contact (outgroup)				Positive contact (outgroup)				Negative contact (ingroup)				Positive contact (ingroup)			
			Confidence interval (95%)				Confidence interval (95%)				Confidence interval (95%)				Confidence interval (95%)				Confidence interval (95%)	
	Estimate	*p*	L	U	Estimate	*p*	L	U	Estimate	*p*	L	U	Estimate	*p*	L	U	Estimate	*p*	L	U
Contact intention	-.16	.46	-.32	.00	.01	.82	-.08	.10	.05	.75	-.12	.17	.00	.99	-.10	.10	.05	.32	-.05	.16
Contact norms	.36	.001	.23	.49	-.12	.006	-.21	-.04	.34	.001	.25	.43	.18	.001	.10	.26	-.01	.91	-.11	.10
Perception of the outgroup	-.03	.59	-.16	.09	-.05	.36	-.15	.05	.21	.001	.09	.34	.02	.68	-.09	.13	-.09	.17	-.22	.04

Table 75

The summary of the direct effects of the covariates (ingroup identification and positive and negative contact with the ingroup and the outgroup) on contact intention, contact norms and perception of the outgroup (Study 3b).

Outcome variable	Covariates																							
	Ingroup identification					Negative contact (outgroup)					Positive contact (outgroup)					Negative contact (ingroup)					Positive contact (ingroup)					Political environment				
			Confidence interval (95%)					Confidence interval (95%)					Confidence interval (95%)					Confidence interval (95%)					Confidence interval (95%)				
	Estimate	*p*	L	U		Estimate	*p*	L	U		Estimate	*p*	L	U		Estimate	*p*	L	U		Estimate	*p*	L	U		Estimate	*p*	L	U	
Contact intention	−.19	.02	−.34	−.03		.01	.88	−.08	.09		.04	.63	−.11	.18		.00	.96	−.09	.08		.06	.25	−.04	.16		.10	−.54	−.21	.41	
Contact norms	.17	.03	.02	.32		−.09	.03	−.17	−.01		.24	.001	.14	.33		.05	.17	−.02	.13		.00	.99	−.10	.10		.41	.001	.25	.57	
Perception of the outgroup	−.07	.41	−.24	.10		−.01	.45	−.14	.06		.20	.007	.05	.34		.00	.99	−.12	.12		−.09	.16	−.22	.04		.07	.52	−.15	.30	

Table 76

The summary of the direct effects of the covariates (ingroup identification and positive and negative contact with the ingroup and the outgroup) on contact intention, contact norms and perception of the outgroup for Black participants (Study 4).

Outcome variable	Covariates																					
	Ingroup identification				Negative contact (outgroup)				Positive contact (outgroup)				Negative contact (ingroup)				Positive contact (ingroup)			
			Confidence interval (95%)				Confidence interval (95%)				Confidence interval (95%)				Confidence interval (95%)				Confidence interval (95%)	
	Estimate	*p*	L	U	Estimate	*p*	L	U	Estimate	*p*	L	U	Estimate	*p*	L	U	Estimate	*p*	L	U
Contact intention (conversation)	.13	.33	-.13	.39	.00	1.00	-.21	.21	.29	.008	.08	.50	.09	.46	-.15	.33	-.02	.88	-.26	.22
Contact intention (general)	.04	.62	-.11	.18	-.05	.48	-.20	.09	.29	.001	.14	.43	.04	.65	-.13	.21	.03	.65	-.11	.17
Contact norms (ingroup)	-.02	.83	-.22	.18	.00	.98	-.17	.21	.02	.84	-.17	.21	.05	.52	-.11	.21	.18	.04	.01	.35
Contact norms (outgroup)	-.09	.40	-.29	.11	-.15	.06	-.30	.00	.02	.60	-.14	.24	.02	.82	-.17	.21	.01	.92	-.16	.18
Perception of the outgroup	-.13	.05	-.25	.00	-.07	.31	-.20	.06	.26	.001	.10	.42	-.03	.71	-.19	.13	.07	.28	-.06	.21

Table 77

The summary of the direct effects of the covariates (ingroup identification and positive and negative contact with the ingroup and the outgroup) on contact intention, contact norms and perception of the outgroup for White participants (Study 4).

Outcome variable	Covariates																					
	Ingroup identification					Negative contact (outgroup)					Positive contact (outgroup)					Negative contact (ingroup)					Positive contact (ingroup)				
			Confidence interval (95%)					Confidence interval (95%)					Confidence interval (95%)					Confidence interval (95%)				Confidence interval (95%)	
	Estimate	*p*	L	U		Estimate	*p*	L	U		Estimate	*p*	L	U		Estimate	*p*	L	U		Estimate	*p*	L	U
Contact intention (conversation)	.15	.06	-.01	.31		.16	.17	-.06	.32		.27	.03	.03	.50		-.02	.86	-.19	.16		.13	.29	-.11	.37
Contact intention (general)	-.10	.03	-.20	-.01		.11	.08	-.01	.24		.38	.001	.22	.54		-.03	.52	-.11	.05		.00	.99	-.14	.14
Contact norms (ingroup)	.05	.35	-.05	.15		.01	.94	-.19	.20		-.11	.29	-.30	.09		-.08	.26	-.23	.06		.22	.05	.00	.44
Contact norms (outgroup)	.05	.28	-.04	.13		-.08	.42	-.27	.11		-.04	.66	-.24	.16		.03	.65	-.10	.16		.03	.75	-.13	.19
Perception of the outgroup	.03	.54	-.07	.13		-.18	.19	-.33	-.03		.23	.13	.05	.41		.14	.10	.03	.25		-.13	.14	-.30	.04

Appendix J
Material Study 5

Figure 21

Tweet thread for the control condition for both study 5a (i.e., Democrats and Republicans) and study 5b (i.e., Black and White people)

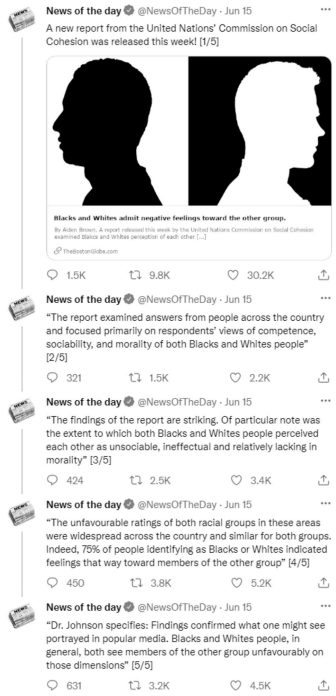
Task 1

Task 1: In this task, you will read a tweet thread presenting a news article. Please read this tweet thread carefully, as you will be asked questions about it later.

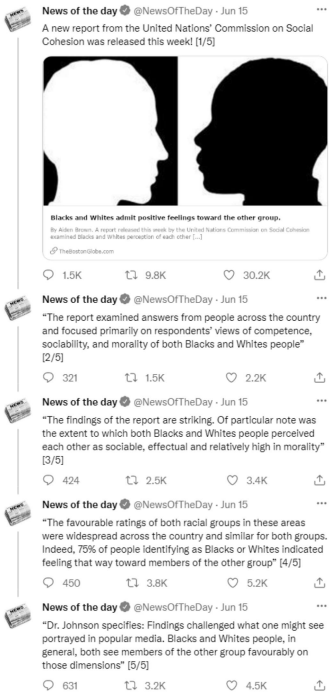
Figure 22

Tweet thread for the positive and negative condition (Study 5a: Democrats and Republicans; Study 5b: Black and White people)

(a) *Study 5a - Negative*



(b) *Study 5b - Positive*



(c) *Study 5b - Negative*

(d) *Study 5b - Positive*

The following questions relate to the article you have just read. Please read and answer them carefully

1. What is the title of the article you just read?

- Democrats and Republicans admit positive feelings toward the other group.
- Democrats and Republicans admit negative feelings toward the other group.
- Tourism in the US: the side effect of a pandemic.
- I don't know

2. What was the tweet thread about? Please summarise in your own words the content of this (in 2 or 3 sentences). (Text entry)

3. Here, choose the circles that best represent how you feel. Did you find the information presented: (7 point/circle scale)

- Clear - Unclear
- Well written - Not well written
- Interesting - Uninteresting
- Engaging - Not engaging

4a. For positive and negative condition only: According to this tweet thread, Democrats and Republicans perceptions of each other is:

- Positive
- Negative
- I don't know

4b. For control condition only: According to this tweet thread, the impact of the COVID-19 pandemic on Tourism is:

- Positive
- Negative
- I don't know

Task 2

Task 2: In this task, you will be put in a live text chat with another person. Researchers have found that interacting with another person, even for a brief moment, can improve ideas as it forces us to work on arguments to justify them. During your interaction, you will have to discuss the tweet thread you read in the first part and how to improve it (e.g., clarity, form, credibility). This task should not last longer than 5 minutes.

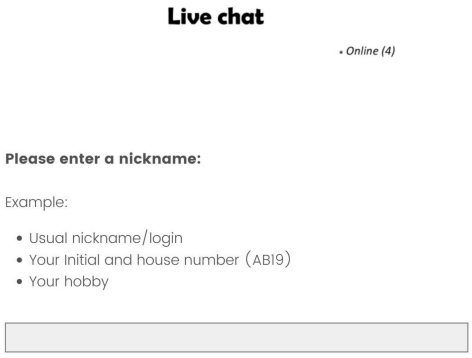
— new page —

Condition: You have been placed in the "CHOICE" condition. This means that you will be asked to choose between different partners (number depending on availability). Your partner will not know you were able to choose them. The person(s) you do not choose will not know you didn't choose them. Please take time to consider your choice.

— new page —

Figure 23

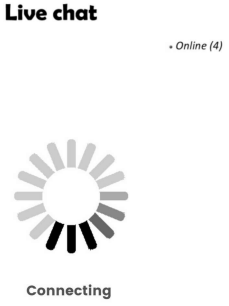
Example of a "live" page: the nickname connection page.



— new page —

Figure 24

Example of a "live" page: trying to connect page.



— new page —

Partner profiles

Partner 1

Nickname: AB28

Age: 30

Gender: Female

Political affiliation: Republican

Education: Some university

Country: United States

Partner 3

Nickname: PW15

Age: 49

Gender: Female

Political affiliation: Republican

Education: Some university

Country: United States

Partner 2

Nickname: EJ06

Age: 32

Gender: Female

Political affiliation: Democrat

Education: Some university

Country: United States

Partner 4

Nickname: CS24

Age: 51

Gender: Female

Political affiliation: Democrat

Education: Some university

Country: United States

Note:. For male participants, the profile gender said: Male. Non-binary or people answering other/prefer not to say were randomly shown either only Female or Male profiles.

Please indicate with who you would want to interact:

- Partner 1
- Partner 2
- Partner 3
- Partner 4

— new page —

Connecting (picture)

— new page —

Connection Fail (picture)

— new page —

We couldn't connect you with a partner. This will not affect your compensation and the data you provided so far are still very useful. Please answer these questions in a new task.

Task 3

Task 3: In this task, you will be answering some questions about you, and the relationship between Democrats and Republicans. Note that we are interested in your genuine opinion and that there are no right or wrong answers.

Attention check.. The test you are about to take part in is very simple, when asked to select a number you must select Not at all - 1. This is an attention check. Please select the number you have been asked to select (1 = Not at all; 4= Neither; 7= Absolutely)

Note:. Avoidance intention, Contact intention, Self and group meta-perception, perception of the outgroup and ingroup and outgroup norms were measured using the same items as study 3 (see Appendix XXX).

In addition, we also measured feelings of similarity to the ingroup and the outgroup using the following items: How similar to or different from [ingroup/outgroup] do you consider yourself to be? (1- Very similar to 7- Very different)

Task 4

Task 4: In this task, you will evaluate the material that was presented to you so far.

Evaluation of task 1.

Recall the tweet thread you read earlier: How surprising was the content of the tweet? (1- Not surprising to 7- Very surprising); How believable was the content of the tweet? (1- Not at all believable to 7- Very believable), and How readable was the content of the tweet? (1- Very easy to read to 7- very hard to read).

Attention check.. Please indicate your agreement with the statement below:

- I fly from France every day to go to work.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Evaluation of task 2.

The following questions concern your choice of partner. As a reminder, you chose the person with the following profile *** show profile choice***

Why did you choose this partner? (show their initial choice) and Why did you not choose this partner? (show default choice if they selected another profile).

How anxious did you feel while reading the profile of this potential partner? How anxious did you feel regarding the future interaction with this person? (1- Not at all to 7- A lot)

Profiles evaluation.. The following question concerns the profile of the 4 partners you were presented with. How believable was the content of the profile of these partners? (1- Not at all believable to 7- Very believable).

Live platform evaluation.. The following question concerns the online chat platform. How much did you feel like you were going to participate in a real online interaction? (1- Not at all to 7- Completely).

Evaluation of task 3.

How repetitive were the questionnaires you had to answer? (1- Not at all to 7- A lot)

Evaluation of the study in general.

The following questions concern your general experience completing the different tasks: What do you think is the purpose of this experiment? (Optional); and: Do you have any suggestions on what can be improved? (Optional)

Appendix K
Study 5 Pilot

Participants

A total of 69 participants took part in the pilot study. 41 participants, including 21 Democrats and 20 Republicans (20 Female, 20 Male), aged between 19 and 66 (meaan=39.04, sd=11.38) took part in the Study 5a pilot. 28 participants, including 16 Blacks and 12 Whites (15 Female, 13 Male), aged between 21 and 65 (mean=39.28, sd=13.14) took part in the Study 5b pilot.

Ethics approval was obtained before we began recruiting participants. The study was advertised through Prolific (convenience sample) and participants were compensated £0.84 for their time in this 10-minute study.

Material

Similar material to the main study was used. The tweet threads were nearly identical with the exception of the percentage (i.e., 85% instead of 75%) of people from both groups holding the perception describe by the article. The article evaluation, evaluation of the study and measures were identical to the main study. The online platform did not include animated pictures but was otherwise similar to the main study.

Profile. Unlike the main study, only one profile of a potential partner was presented to the participants. Both ingroup and outgroup partners were presented to ensure avoidance behaviour was the consequence of being presented with an outgroup partner rather than the experimental manipulation. Participants were then asked whether they desired to proceed with the attributed partner or randomly select a new one. Example of profile:

Nickname: CooKING or CookingMama Age: 30

Gender: match participant gender.

Group membership: either outgroup or ingroup member.

Hobbies: cooking.

Education: some college.

Open question: open questions on the choice of partner and the purpose of the experiment were asked.

Procedure

After signing the informed consent and being informed they will test material for a future study. Participants were instructed to read the tweet thread (i.e., positive or negative conditions only). They then answer a few questions regarding the article before being asked to select a nickname for the interaction. They were then presented with their partner profile (either ingroup or outgroup) and were asked whether they desired to proceed with the interaction or change partner. Finally, participants answered some questions regarding their experience of the study and impressions regarding various parts and their suspicion regarding the real purpose of the experiment before being debriefed. During this debriefing, participants were revealed the real purpose of the experiment and asked whether they still desired to take part in the experiment or withdraw their data.

Results

Exploration of participants' choice of proceeding with their attributed partner revealed that a large number of participants either: 1) did not understand the instructions or that they could change partner (N=5); 2) found changing partner time-consuming (N=7); 3) they had no reason not too (N=17); 4) They wanted to confront themselves to another point of view (N=22). Further exploration also revealed that people understood the purpose of the experiment, making the group membership of the partner highly salient.

Conclusion

Facing those results, we decided to modify the experiment slightly to avoid any social desirability effect and prevent people from selecting a partner out of laziness. We thus decided to present participants with four profiles that vary in terms of membership and age to allow participants some choice and draw the attention away from our manipulation.

Appendix L
Tables Study 5

Predicting contact engagement

Table 78

Binary logistic regression results with actual contact engagement (i.e., partner choice) predicted by perceptions and contact norms (Study 5a).

	Engagement		
Predictors	*Odds Ratios*	*CI*	*p*
(Intercept)	2.93	0.09 – 106.49	0.553
Meta-perception (Self)	0.95	0.70 – 1.28	0.746
Meta-perception (Group)	1.08	0.70 – 1.61	0.729
Perception of the outgroup	1.16	0.75 – 1.80	0.501
Similarity (Ingroup)	0.79	0.60 – 1.05	0.098
Similarity (Outgroup)	1.19	0.88 – 1.63	0.256
Contact norms (Ingroup)	0.74	0.52 – 1.05	0.097
Contact norms (Outgroup)	1.06	0.73 – 1.55	0.767
Observations	217		
R^2 Tjur	0.078		

Reason behind partner choice

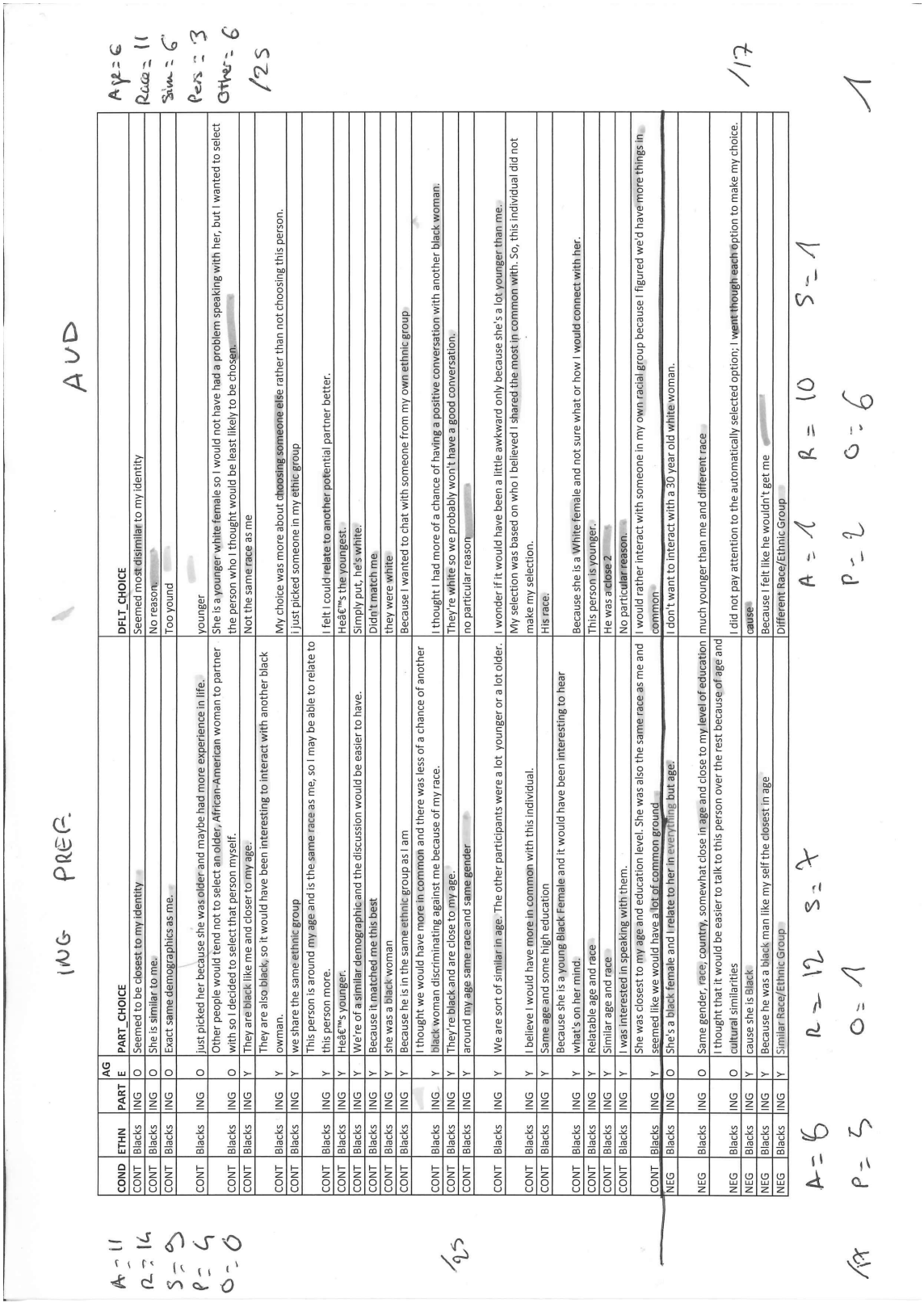
Table 79

Binary logistic regression results with actual contact engagement (i.e., partner choice) predicted by perceptions and contact norms (Study 5a).

	Engagement		
Predictors	*Odds Ratios*	*CI*	*p*
(Intercept)	0.50	0.02 – 10.99	0.658
Meta-perception (Self)	1.16	0.87 – 1.56	0.321
Meta-perception (Group)	1.18	0.87 – 1.62	0.283
Perception of the outgroup	0.65	0.47 – 0.88	**0.007**
Similarity (Ingroup)	1.18	0.96 – 1.47	0.127
Similarity (Outgroup)	0.73	0.57 – 0.92	**0.009**
Contact norms (Ingroup)	1.30	0.94 – 1.81	0.110
Contact norms (Outgroup)	1.18	0.85 – 1.63	0.326
Observations	220		
R^2 Tjur	0.189		

Table 80

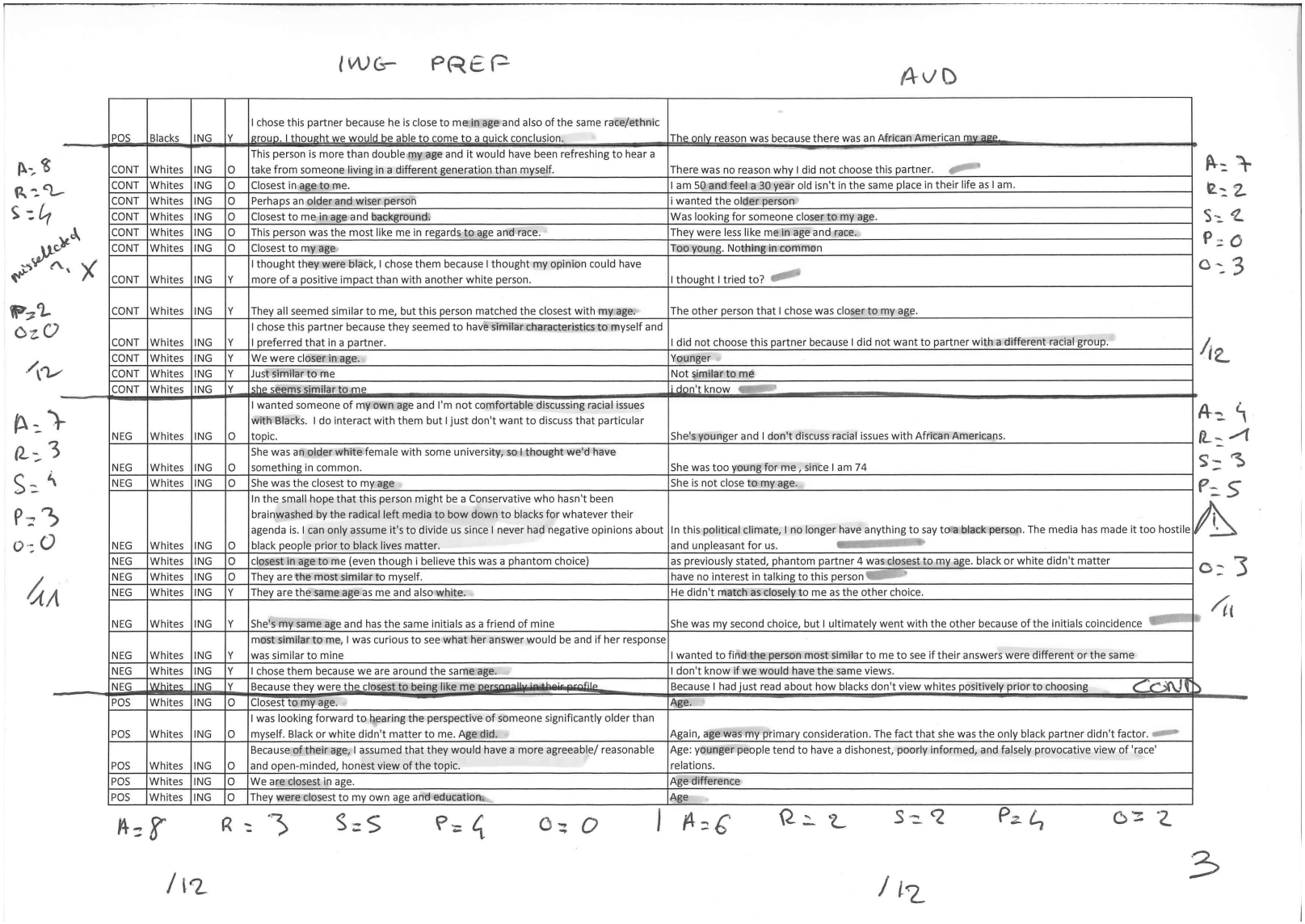
Reason behind partner choice



COND	ETHN	PART	AG	PART_CHOICE	DFLT_CHOICE
CONT	Blacks	ING	O	Seemed to be closest to my identity	Seemed most dissimilar to my identity
CONT	Blacks	ING	O	She is similar to me.	No reason.
CONT	Blacks	ING	O	Exact same demographics as me.	Too yound
CONT	Blacks	ING	O	just picked her because she was older and maybe had more experience in life.	younger
CONT	Blacks	ING	O	Other people would tend not to select an older, African-American woman to partner with so I decided to select that person myself.	She is a younger white female so I would not have had a problem speaking with her, but I wanted to select the person who I thought would be least likely to be chosen.
CONT	Blacks	ING	Y	They are black like me and closer to my age.	Not the same race as me
CONT	Blacks	ING	Y	They are also black, so it would have been interesting to interact with another black owman.	My choice was more about choosing someone else rather than not choosing this person.
CONT	Blacks	ING	Y	we share the same ethnic group	i just picked someone in my ethic group
CONT	Blacks	ING	Y	This person is around my age and is the same race as me, so I may be able to relate to this person more.	I felt I could relate to another potential partner better.
CONT	Blacks	ING	Y	Heâ€™s younger.	Heâ€™s the youngest.
CONT	Blacks	ING	Y	We're of a similar demographic and the discussion would be easier to have.	Simply put, he's white.
CONT	Blacks	ING	Y	Because it matched me this best	Didn't match me.
CONT	Blacks	ING	Y	she was a black woman	they were white
CONT	Blacks	ING	Y	Because he is in the same ethnic group as I am	Because I wanted to chat with someone from my own ethnic group
CONT	Blacks	ING	Y	I thought we would have more in common and there was less of a chance of another black woman discriminating against me because of my race.	I thought I had more of a chance of having a positive conversation with another black woman.
CONT	Blacks	ING	Y	They're black and are close to my age.	They're white so we probably won't have a good conversation.
CONT	Blacks	ING	Y	around my age same race and same gender	no particular reason
CONT	Blacks	ING	Y	We are sort of similar in age. The other participants were a lot younger or a lot older.	I wonder if it would have been a little awkward only because she's a lot younger than me.
CONT	Blacks	ING	Y	I believe I would have more in common with this individual.	My selection was based on who I believed I shared the most in common with. So, this individual did not make my selection.
CONT	Blacks	ING	Y	Same age and some high education	His race.
CONT	Blacks	ING	Y	Because she is a young Black Female and it would have been interesting to hear what's on her mind.	Because she is a White female and not sure what or how I would connect with her.
CONT	Blacks	ING	Y	Relatable age and race	This person is younger.
CONT	Blacks	ING	Y	Similar age and race	He was a close 2
CONT	Blacks	ING	Y	I was interested in speaking with them.	No particular reason.
CONT	Blacks	ING	Y	She was closest to my age and education level. She was also the same race as me and seemed like we would have a lot of common ground.	I would rather interact with someone in my own racial group because I figured we'd have more things in common
NEG	Blacks	ING	O	She's a black female and I relate to her in everything but age.	I don't want to interact with a 30 year old white woman.
NEG	Blacks	ING	O	Same gender, race, country, somewhat close in age and close to my level of education	much younger than me and different race
NEG	Blacks	ING	O	I thought that it would be easier to talk to this person over the rest because of age and cultural similarities	I did not pay attention to the automatically selected option; I went though each option to make my choice.
NEG	Blacks	ING	Y	cause she is black	cause
NEG	Blacks	ING	Y	Because he was a black man like my self the closest in age	Because I felt like he wouldn't get me
NEG	Blacks	ING	Y	Similar Race/Ethnic Group	Different Race/Ethnic Group

Reasons are separated under 5 categories: group membership (pink), age (orange), general similarity (blue), contact experience (green) and other (purple).

NEG	Blacks	ING	Y	She seemed the most similar to myself, so we would have things in common to talk about	I just thought the other candidate would be a better fit
NEG	Blacks	ING	Y	we are both black and could have effectively chatted about the content without bias.	I felt maybe she could have been bias because of her race.
NEG	Blacks	ING	Y	They were the closest thing to myself, only thing that was off was he age.	They were white and older.
NEG	Blacks	ING	Y	I wanted to see what someone of the same race and close to my age would think of this.	I wanted to know what a black man would have to say more.
NEG	Blacks	ING	Y	She's black and around my age	She's whitr
NEG	Blacks	ING	Y	Because she was black	Because she was white
NEG	Blacks	ING	Y	I felt more comfortable with the potential conduct of conversation with a black person closest to my age	As a black person in America I did not want to have to potentially over explain myself about his ignorance as it pertains to blackness
NEG	Blacks	ING	Y	They were the closest in age to me and they also were a black woman. So I figured talking to someone similar might be easy to do.	I didn't really pay them much attention and just tried to see who was the most similar to me.
NEG	Blacks	ING	Y	because he seems to have more similarities to me	i really dont know
NEG	Blacks	ING	Y	We're extremely similar and it seemed like the conversation would be less taxing.	Talking race with non black people can be exhausting and I didn't feel like it
NEG	Blacks	ING	Y	I just randomly chose that person	I randomly chose the other person, so that means I could not choose this person.
POS	Blacks	ING	O	I chose this partner because we had the most in common	I didn't choose this background not just because we are different races but because in a conversation about the tweets, I thought it would make more sense to talk to someone the same race as me
POS	Blacks	ING	O	They were close to my age and they were Black.	Because they were white.
POS	Blacks	ING	O	He is similar to me, although he is older.	He is of a different race than me, he is younger, and he has not completed a bachelor's degree.
POS	Blacks	ING	O	Because of age and race.	Because of race.
POS	Blacks	ING	O	Interested in her opinion and feelings about the tweet.	Wanted the opinion of someone older.
POS	Blacks	ING	O	A black man about 2 decades my senior is my father's attributes	He was my second choice but I lived my choice better.
POS	Blacks	ING	O	beacuse of race	race
POS	Blacks	ING	Y	I figured we were the most similar	I thought it'd be easier to quickly communicate with the participant I chose.
POS	Blacks	ING	Y	I have alot in common with this person. We are the same gender, same age, and our education is nearly similar. I rather talk to someone I have something in common with.	I don't have much in common with this person. They are white and we probably wont agree on race-related issues. I'm not in a mood to debate with anyone.
POS	Blacks	ING	Y	She was closest to my age and she was Black (share same racial background) so I thought we would have more in common.	Thought I would have less in common with her because she is White.
POS	Blacks	ING	Y	They were similar to me	Felt we would not have anything in common
POS	Blacks	ING	Y	To talk to another black person around my age group about the topic	I felt like talking to another black person around my age group about the topic
POS	Blacks	ING	Y	I chose her because she was black and closer to my age	she was white
POS	Blacks	ING	Y	same background	feel like they couldn't relate
POS	Blacks	ING	Y	She seems similar to me. We may have things in common which would make conversation easier.	She was my second choice but I felt I could relate more to #2.
POS	Blacks	ING	Y	i like the initials EJ	no reason
POS	Blacks	ING	Y	Out of all the others partner 2 was the most similar to me.	felt he wasnt similar to me as partner 2
POS	Blacks	ING	Y	Because they were one of the youngest and they are the same race as me.	Because of their ethnicity.
POS	Blacks	ING	Y	I believed this person to be relatable and possibly have the ability to speak easiest to.	I did not choose this partner due to their race.
POS	Blacks	ING	Y	She was Black like me and a similar age as me	She was white, I didnt think we would have a good/fun convo



ING PREF

AVD

POS	Blacks	ING	Y	I chose this partner because he is close to me in age and also of the same race/ethnic group. I thought we would be able to come to a quick conclusion.	The only reason was because there was an African American my age.	
CONT	Whites	ING	O	This person is more than double my age and it would have been refreshing to hear a take from someone living in a different generation than myself.	There was no reason why I did not choose this partner.	
CONT	Whites	ING	O	Closest in age to me.	I am 50 and feel a 30 year old isn't in the same place in their life as I am.	
CONT	Whites	ING	O	Perhaps an older and wiser person	i wanted the older person	
CONT	Whites	ING	O	Closest to me in age and background.	Was looking for someone closer to my age.	
CONT	Whites	ING	O	This person was the most like me in regards to age and race.	They were less like me in age and race.	
CONT	Whites	ING	O	Closest to my age	Too young. Nothing in common	
CONT	Whites	ING	Y	I thought they were black, I chose them because I thought my opinion could have more of a positive impact than with another white person.	I thought I tried to?	
CONT	Whites	ING	Y	They all seemed similar to me, but this person matched the closest with my age.	The other person that I chose was closer to my age.	
CONT	Whites	ING	Y	I chose this partner because they seemed to have similar characteristics to myself and I preferred that in a partner.	I did not choose this partner because I did not want to partner with a different racial group.	
CONT	Whites	ING	Y	We were closer in age.	Younger	
CONT	Whites	ING	Y	Just similar to me	Not similar to me	
CONT	Whites	ING	Y	she seems similar to me	i don't know	
NEG	Whites	ING	O	I wanted someone of my own age and I'm not comfortable discussing racial issues with Blacks. I do interact with them but I just don't want to discuss that particular topic.	She's younger and I don't discuss racial issues with African Americans.	
NEG	Whites	ING	O	She was an older white female with some university, so I thought we'd have something in common.	She was too young for me , since I am 74	
NEG	Whites	ING	O	She was the closest to my age	She is not close to my age.	
NEG	Whites	ING	O	In the small hope that this person might be a Conservative who hasn't been brainwashed by the radical left media to bow down to blacks for whatever their agenda is. I can only assume it's to divide us since I never had negative opinions about black people prior to black lives matter.	In this political climate, I no longer have anything to say to a black person. The media has made it too hostile and unpleasant for us.	
NEG	Whites	ING	O	closest in age to me (even though i believe this was a phantom choice)	as previously stated, phantom partner 4 was closest to my age. black or white didn't matter	
NEG	Whites	ING	O	They are the most similar to myself.	have no interest in talking to this person	
NEG	Whites	ING	Y	They are the same age as me and also white.	He didn't match as closely to me as the other choice.	
NEG	Whites	ING	Y	She's my same age and has the same initials as a friend of mine	She was my second choice, but I ultimately went with the other because of the initials coincidence	
NEG	Whites	ING	Y	most similar to me, I was curious to see what her answer would be and if her response was similar to mine	I wanted to find the person most similar to me to see if their answers were different or the same	
NEG	Whites	ING	Y	I chose them because we are around the same age.	I don't know if we would have the same views.	
NEG	Whites	ING	Y	Because they were the closest to being like me personally in their profile	Because I had just read about how blacks don't view whites positively prior to choosing	COND
POS	Whites	ING	O	Closest to my age.	Age.	
POS	Whites	ING	O	I was looking forward to hearing the perspective of someone significantly older than myself. Black or white didn't matter to me. Age did.	Again, age was my primary consideration. The fact that she was the only black partner didn't factor.	
POS	Whites	ING	O	Because of their age, I assumed that they would have a more agreeable/ reasonable and open-minded, honest view of the topic.	Age: younger people tend to have a dishonest, poorly informed, and falsely provocative view of 'race' relations.	
POS	Whites	ING	O	We are closest in age.	Age difference	
POS	Whites	ING	O	They were closest to my own age and education.	Age	

A=8 R=2 S=4 P=2 O=0 /12

misselected 7. X

A=7 R=3 S=4 P=3 O=0 /11

A=7 R=2 S=2 P=0 O=3 /12

A=4 R=1 S=3 P=5 O=3 /11

A=8 R=3 S=5 P=4 O=0 /12

A=6 R=2 S=2 P=4 O=2 /12

3

POS	Whites	ING	O	Because she seemed most similar to myself	not similar to me
POS	Whites	ING	O	Preferred white. Made no difference otherwise	Black
POS	Whites	ING	O	The most superficially similar to me of the choices.	Superficially least similar to me, potentially harder to connect with.
POS	Whites	ING	O	They were older than me and might be more knowledged.	I wanted a viewpoint of someone much older.
POS	Whites	ING	Y	The most similar to myself in age, gender, education...everything.	I didn't want to risk accidentally saying something offensive.
POS	Whites	ING	Y	He seemed similar to me	I didn't think about as much as not choosing this partner as more choosing another partner.
POS	Whites	ING	Y	Same age and race. Thought it would be cool to talk with him.	Thought it would be easier to discuss with someone of my race.
CONT	Blacks	OUT	O	The age influenced me	the combo of age and race
CONT	Blacks	OUT	Y	NA	He's younger than the rest of the choices.
CONT	Blacks	OUT	Y	NA	random
CONT	Blacks	OUT	Y	NA	They are close to my age.
CONT	Blacks	OUT	Y	NA	they were similar to me in some ways and different in others
CONT	Blacks	OUT	Y	NA	I just picked the first person on the list to be honest.
NEG	Blacks	OUT	O	Similar to me	Wanted someone similar in age
NEG	Blacks	OUT	O	I wanted to choose someone who could possibly have a different perspective than mine.	Probably because they were younger than I.
NEG	Blacks	OUT	O	A little closer to my age	YOUNG WHITE FEMALE HAS VERY little in common with me.
NEG	Blacks	OUT	O	I felt that the conversation would be interesting.	There was not particular reason.
NEG	Blacks	OUT	O	I thought it would be interesting to discuss the topic with someone who had a different perspective. I wanted to know their views.	She was young and I wanted someone closer to my age.
NEG	Blacks	OUT	O	Wanted to see if she would say negative things about Blacks due to her age, education level, and race.	I thought that we would agree on race discussion points.
NEG	Blacks	OUT	O	I like talking to people with different perspectives than me	just didn't feeling it
NEG	Blacks	OUT	Y	NA	I was looking for someone around my age of a different race. Maybe they would have different experiences than me.
NEG	Blacks	OUT	Y	NA	They were the youngest, so they would be less bias in my opinion.
NEG	Blacks	OUT	Y	NA	This partner was close to my age group and somewhat would be easier to interact with on racial issues, perhaps would have an open mind than the others.
NEG	Blacks	OUT	Y	NA	I prefer talking to white people closer to my age
NEG	Blacks	OUT	Y	NA	I thought that if we were given the chance speak about the tweet thread, it would be good to pair with someone who was not also black like I am, and to hear what she thinks of the article. To get a different perspective from someone on the other side.
NEG	Blacks	OUT	Y	NA	They weree closest to my age
NEG	Blacks	OUT	Y	NA	I wanted to interact with a White person in my age range
NEG	Blacks	OUT	Y	NA	I thought we could have an interesting conversation
NEG	Blacks	OUT	Y	NA	Mainly because of age and being close as far as generations go.
NEG	Blacks	OUT	Y	NA	Someone with a different view than mine
NEG	Blacks	OUT	Y	NA	I wanted to talk to a young white person
NEG	Blacks	OUT	Y	NA	He seems like someone I'd like to talk to.
NEG	Blacks	OUT	Y	NA	Looks the most interesting
NEG	Blacks	OUT	Y	NA	I wanted to talk to someone close to my age.
POS	Blacks	OUT	O	I considered the race and age with hope to have a pleasant time chatting.	Age - I decided to chat with someone older than me.
POS	Blacks	OUT	O	Her age	Her age
POS	Blacks	OUT	O	This person is close to my age and a different race so I would love to hear her views.	We aren't as close in age.

OUT PREF

POS	Blacks	OUT	O	I wanted someone older who might be more experienced.	I did not want a younger partner.
POS	Blacks	OUT	Y	NA	Closest in age.
POS	Blacks	OUT	Y	NA	Because the partner is white. The other partners were black, and I wanted to stay within the context of this study. I wanted to chat with a white partner so that we could discuss this study, and daily life.
POS	Blacks	OUT	Y	NA	She was different but alike
POS	Blacks	OUT	Y	NA	I mean, I don't know, I was just kind of trying to decide quickly and not keep everyone waiting, but honestly, I preferred someone young over someone old just because... I don't know, but it just felt better to me, but also I wasn't sure whether to go with someone white or someone black, because I was trying to think of which would result in a less awkward conversation, and a white guy would be different from me and that might be a bit weird, but then again, a black guy might be more deeply comitted to things like being proud of your race and stuff, and I've never really been all into that sort of thing, so I wouldn't really know what to say and it might feel weird, and so in the end I went with the white guy.
POS	Blacks	OUT	Y	NA	he was the youngest and closest to my age
POS	Blacks	OUT	Y	NA	Because same age range and initials.
POS	Blacks	OUT	Y	NA	Wanted to find the truth of the tweet from his point of view as a white person
POS	Blacks	OUT	Y	NA	Age and race; I figured I would have more in common with a younger, white person
POS	Blacks	OUT	Y	NA	I wanted to see how well we could get along since the tweets were about Whites and Blacks seeing each other in high morality. I also wanted someone closer to my age group and they were the closest.
CONT	Whites	OUT	O	She was older than me, and had some university training, so her opinion is likely highly valuable.	I was hoping to discuss the issue with someone older than me for a better perspective, and Partner 1 was younger than me.
CONT	Whites	OUT	O	They seemed to be the furthest from my age and appearance.	I was trying to choose someone who was the furthest from my life experience.
CONT	Whites	OUT	O	The instructions said that the purpose of the discussion was to strengthen our ideas by seeing opposing viewpoints, so as a young white person I thought the most different person from me would be an older black person	I wanted to choose someone older just to see their different point of view
CONT	Whites	OUT	O	They were closer to me in age. Race/ethnic group doesn't matter to me.	They weren't close to me in age.
CONT	Whites	OUT	O	I enjoy african americans and his age was relatively close to mine.	Age, I thought I might communicate better with an older person.
CONT	Whites	OUT	O	She was around the same age and she was Black. I thought it would be interesting to talk to her since I am White.	Because she was much younger than I am. I didn't know if we would have much in common
CONT	Whites	OUT	O	She was close to my age more so than the others	too young not enough in common
CONT	Whites	OUT	O	I am interested in the perspective of older women and was curious what an older black woman's perspective was.	She was my second choice.
CONT	Whites	OUT	O	they have similarities and differences to me. i thought it would be easy and interesting to have a conversation with this person.	they seemed to not be as similar to me as the other people. i worried we wouldnt have much in common to talk about.
CONT	Whites	OUT	O	Older partner, might have been easier to chat with them	No strong reason
CONT	Whites	OUT	O	Closer to my age and I wanted to work with a black male as I felt we have more in common.	He was younger than I.
CONT	Whites	OUT	O	I thought that a 49 year old would have more interesting perspective than a younger person. There are some things that only time can teach us, so an older person than myself is always a better learning experience, whether I agree with them or not.	age was more than 10 years younger than myself. Not that I don't respect younger people's opinions, I just find older people than myself to be more interesting.

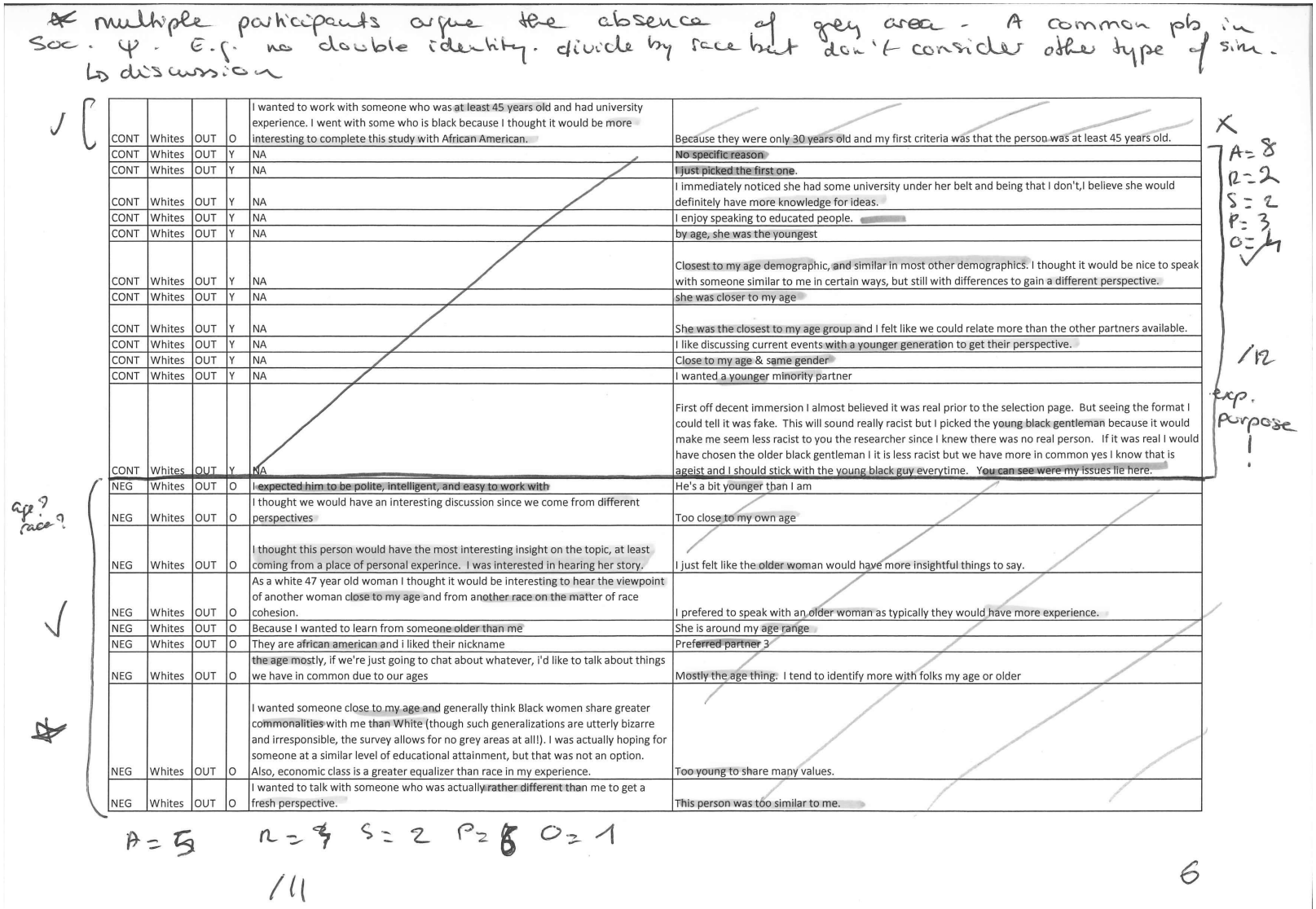
A=6 R=4 S=1 P=2 O=0

10

A=12 R=6 S=3 P=7 O=1

/13

5



multiple participants argue the absence of grey area - A common pb in Soc. Ψ. E.g. no double identity. divide by race but don't consider other type of sim. to discussion

CONT	Whites	OUT	O	I wanted to work with someone who was at least 45 years old and had university experience. I went with some who is black because I thought it would be more interesting to complete this study with African American.	Because they were only 30 years old and my first criteria was that the person was at least 45 years old.
CONT	Whites	OUT	Y	NA	No specific reason
CONT	Whites	OUT	Y	NA	I just picked the first one.
CONT	Whites	OUT	Y	NA	I immediately noticed she had some university under her belt and being that I don't,I believe she would definitely have more knowledge for ideas.
CONT	Whites	OUT	Y	NA	I enjoy speaking to educated people.
CONT	Whites	OUT	Y	NA	by age, she was the youngest
CONT	Whites	OUT	Y	NA	Closest to my age demographic, and similar in most other demographics. I thought it would be nice to speak with someone similar to me in certain ways, but still with differences to gain a different perspective.
CONT	Whites	OUT	Y	NA	she was closer to my age
CONT	Whites	OUT	Y	NA	She was the closest to my age group and I felt like we could relate more than the other partners available.
CONT	Whites	OUT	Y	NA	I like discussing current events with a younger generation to get their perspective.
CONT	Whites	OUT	Y	NA	Close to my age & same gender
CONT	Whites	OUT	Y	NA	I wanted a younger minority partner
CONT	Whites	OUT	Y	NA	First off decent immersion I almost believed it was real prior to the selection page. But seeing the format I could tell it was fake. This will sound really racist but I picked the young black gentleman because it would make me seem less racist to you the researcher since I knew there was no real person. If it was real I would have chosen the older black gentleman I it is less racist but we have more in common yes I know that is ageist and I should stick with the young black guy everytime. You can see were my issues lie here.
NEG	Whites	OUT	O	I expected him to be polite, intelligent, and easy to work with	He's a bit younger than I am
NEG	Whites	OUT	O	I thought we would have an interesting discussion since we come from different perspectives	Too close to my own age
NEG	Whites	OUT	O	I thought this person would have the most interesting insight on the topic, at least coming from a place of personal experince. I was interested in hearing her story.	I just felt like the older woman would have more insightful things to say.
NEG	Whites	OUT	O	As a white 47 year old woman I thought it would be interesting to hear the viewpoint of another woman close to my age and from another race on the matter of race cohesion.	I prefered to speak with an older woman as typically they would have more experience.
NEG	Whites	OUT	O	Because I wanted to learn from someone older than me	She is around my age range
NEG	Whites	OUT	O	They are african american and i liked their nickname	Preferred partner 3
NEG	Whites	OUT	O	the age mostly, if we're just going to chat about whatever, i'd like to talk about things we have in common due to our ages	Mostly the age thing. I tend to identify more with folks my age or older
NEG	Whites	OUT	O	I wanted someone close to my age and generally think Black women share greater commonalities with me than White (though such generalizations are utterly bizarre and irresponsible, the survey allows for no grey areas at all!). I was actually hoping for someone at a similar level of educational attainment, but that was not an option. Also, economic class is a greater equalizer than race in my experience.	Too young to share many values.
NEG	Whites	OUT	O	I wanted to talk with someone who was actually rather different than me to get a fresh perspective.	This person was too similar to me.

X
A= 8
R= 2
S= 2
P= 3
O= 4 ✓

/12

exp. purpose !

age? race?

A= 5 R= 4 S= 2 P= 6 O= 1

/11

6

OUT PREG Age = mostly choice btw young & old. + mostly for whites

NEG	Whites	OUT	O	Because he was close to my own age and he was black. I thought it was important to discuss this topic with someone of the opposite race in the article and had grown up during the same period.	He was much younger than me.	
NEG	Whites	OUT	O	I wanted to get his perspective more than the other choices.	I preferred Partner 3 because he was a bit older.	
NEG	Whites	OUT	Y	NA	I just chose the first one	
NEG	Whites	OUT	Y	NA	I wanted the view of someone different from me	
NEG	Whites	OUT	Y	NA	He was the first choice presented to me.	
NEG	Whites	OUT	Y	NA	I wanted to speak with someone around my age of the opposite race about this topic, so I could hear their opinions.	
NEG	Whites	OUT	Y	NA	We were the closest in age so I thought we would be able to communicate easily and it would be interesting to discuss the tweet with one person from each race discussed in the article, as to get opinions from both races.	
NEG	Whites	OUT	Y	NA	I believe we could exchange different viewpoints and learn about each other.	
NEG	Whites	OUT	Y	NA	since I am white, I chose someone of a black racial background to include diversity. she is also similar in age to me	
NEG	Whites	OUT	Y	NA	Similar age group and background - wanted to laugh at how blatantly fake the article was with them	
NEG	Whites	OUT	Y	NA	I chose this person because she was a different race and in a different age group than myself to get her perspective	
NEG	Whites	OUT	Y	NA	I thought it would be good to interact with a Black American, and she was a young person which is good for me as I am older.	
NEG	Whites	OUT	Y	NA	I chose the person I thought I'd have the easiest time talking to, a woman as close to my age as was available.	
NEG	Whites	OUT	Y	NA	I felt like we would a productive conversation considering our balance of similarities and differences.	
NEG	Whites	OUT	Y	NA	Close to my age.	
NEG	Whites	OUT	Y	NA	they are around my age	
NEG	Whites	OUT	Y	NA	Because I was more interested in speaking with a young African American man that the other options.	
NEG	Whites	OUT	Y	NA	I thought a perspective from someone who is a different race would be valuable because they would have had different life experiences, and younger people tend to be more open-minded	
POS	Whites	OUT	O	She is older than me and black. I wanted someone with a more experienced p.o.v. about the issue.	She is younger, I wanted an older, wiser partner	
POS	Whites	OUT	O	She was closest in age to me, and I value hearing a Black woman's perspective on racial issues over that of a white woman.	She is significantly younger than I am, and I wasn't sure we would be able to relate to each other's perspectives well.	
POS	Whites	OUT	O	She seemed to be one I could have a good interaction with.	She was the age of my middle daughter.	
POS	Whites	OUT	O	I chose a black woman because I wanted to hear what she thought about the study findings and I chose the older of the two black women because I wanted to talk with someone closer to my age.	She was further from my age than the other black woman	
POS	Whites	OUT	O	I thought she would have an interesting perspective on the issue.	I preferred to discuss with someone older.	
POS	Whites	OUT	O	I thought it would be easier to talk to an older person.	I preferred to talk to someone who was older.	
POS	Whites	OUT	O	He was closest in age to me. I did not really consider anything else.	Age difference	
POS	Whites	OUT	O	Because she was a female, closer to my age and I wanted a black woman.	Because she is a great deal younger than me but she would have been my second choice.	

A= 11 e= 7 S= 2 P= 7 O=3

A= 12 e=8 S= 2 P= 7 O= 2

/15

POS	Whites	OUT	O	Because she was close to my age and because she was Black and I thought that might be a nice conversation.	Because she was younger than me.
POS	Whites	OUT	O	I just randomly chose a person.	I just randomly chose a person.
POS	Whites	OUT	O	She is close to my age, but not so close that we wouldn't learn stuff from the other	she is much younger than me, younger than my children. I was concerned we wouldn't be on "the same page" and need to spend too much time explaining ourselves
POS	Whites	OUT	O	He is in my age cohort so there is a shared framework in our lives but his experiences might be different than mine	I don't know if I can relate to someone that much younger than me
POS	Whites	OUT	O	Wanted to talk to an older black person.	Looking for someone of a more similar age.
POS	Whites	OUT	O	They were close to my age, of similar education, and not white.	Age difference
POS	Whites	OUT	O	Since the topic is black-white relations I chose someone who was black, since I am white. Also I deliberately chose an older person more similar to my age.	I didn't choose him because he is significantly younger than me.
POS	Whites	OUT	Y	NA	she was the option that was closest in age to me
POS	Whites	OUT	Y	NA	Close in age and a different race from me.
POS	Whites	OUT	Y	NA	He was closest in age to me
POS	Whites	OUT	Y	NA	I choose this partner to interact with someone from an opposite racial gorup.
POS	Whites	OUT	Y	NA	Because we were close in age--I felt less comfortable chatting with people in their 40s and 50s.
POS	Whites	OUT	Y	NA	Close in age and sex
POS	Whites	OUT	Y	NA	Closet to me in age
POS	Whites	OUT	Y	NA	Bc we are around the same age and both same gender
POS	Whites	OUT	Y	NA	I chose this person because they were the youngest person among the "available" participants.
POS	Whites	OUT	Y	NA	I felt comfortable in our similar age and gender and wanted to interact with someone who wasn't white so I might learn something
POS	Whites	OUT	Y	NA	They were the closest in age to me.
POS	Whites	OUT	Y	NA	They were the closest in age to me
POS	Whites	OUT	Y	NA	I wanted to interact with someone that is close to my age.
POS	Whites	OUT	Y	NA	He's young and black so I think he would have had an interesting point of view on the information
POS	Whites	OUT	Y	NA	They were someone who was around my age and they are Black. If I am going to work with someone to improve the content of the story/tweet thread, I would want to have the perspective of both a White and Black person, as I think we would both have unique perspectives that are important to consider.