Understanding Mental Health Help-Seeking Through the Theory of Planned Behaviour: Evidence from Adult Populations and Perinatal Military Spouses and Partners

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Thesis Portfolio Abstract

Perinatal mental health (PMH) difficulties are common and associated with significant risks for parents and infants. However, many individuals experiencing PMH difficulties do not seek professional support. This thesis portfolio examines mental health help-seeking through the Theory of Planned Behaviour (TPB), with a particular focus on perinatal help-seeking among UK military spouses and partners, a population at increased risk and facing additional barriers to care. The portfolio comprises two studies. First, a systematic review and multivariate multilevel meta-analysis synthesised quantitative evidence examining the association between TPB constructs and adult mental health help-seeking intentions and behaviours. Across 38 studies, all three TPB constructs (attitudes, subjective norms, and perceived behavioural control [PBC]) were significantly associated with intentions, with attitudes demonstrating the strongest and most consistent association. Only attitudes were associated with help-seeking behaviours, although analyses were limited by a small number of studies. Results also indicated substantial heterogeneity, highlighting variability in construct operationalisation, and publication bias, particularly for PBC. Secondly, an empirical study applied the TPB model to examine PMH help-seeking intentions among 361 UK military spouses and partners. Only attitudes toward help-seeking were significantly associated with intentions, though the strength of the association was small. Additionally, the TPB constructs explained only a small proportion of variance. These findings suggest that while attitudinal beliefs contribute to help-seeking, the TPB may not fully capture the complex PMH help-seeking process among military spouses and partners. The portfolio identifies important theoretical and clinical implications and recommends the integration of TPB with broader models that capture non-linear processes and contextual influences on help-seeking.

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Table of Contents

List of Tables 4

List of Figures 5

List of Appendices 6

Acknowledgements 7

Chapter 1: Introduction to the Thesis Portfolio 8

Chapter 2: Systematic Review 19

Chapter 3: Bridging Chapter 68

Chapter 4: Empirical Study 70

Chapter 5: Additional Methods 107

Chapter 6: Discussion and Critical Review 114

Appendices 147

List of Tables

Chapter One: Introduction

None.

Chapter Two: Systematic Review

Table 2.1 Search Terms

Table 2.2 Study Characteristics

Table 2.3 Summary of JBI Scores and Scoring Rationale

Table 2.4 Multi-level Meta-analysis of TPB Constructs and Help-Seeking Intentions and Behaviours

Table 2.5 TPB Constructs Moderated by Population Group (Student vs. General Adult)

Table 2.6 TPB Constructs Moderated By Region

Table 2.7 TPB Constructs Moderated by Publication Year

Table 2.8 Comparing Models with and Without Aggregated Within-Study Effects

Table 2.9 Comparing Unadjusted and Adjusted Pooled Estimates of TPB Constructs on Intentions

Chapter Three: Bridging Chapter

None.

Chapter Four: Empirical Study

Table 4.1 Sample Demographics

Table 4.3 Military Characteristics

Table 4.3 Clinical Characteristics

Table 4.4. Theory of Planned Behaviour Measure Descriptives

Table 4.5 Bi-variate Correlations Among Study Variables

Table 4.6 Hierarchical Regression Examining Help-seeking Intentions

Chapter Five: Additional Methods

None.

Chapter Six: Discussion and Critical Review

None.

List of Figures

Chapter One: Introduction

Figure 1.1 Theory of Planned Behaviour Diagram

Chapter Two: Systematic Review

Figure 2.1 PRISMA Diagram

Figure 2.2 Contour-enhanced Funnel Plots for TPB Constructs Examining Intentions

Figure 2.3 Forest Plots of Associations Between TPB Constructs and Help-seeking Intentions

Figure 2.4 Forest Plots of Associations Between TPB Constructs and Help-seeking Behaviours

Chapter Three: Bridging Chapter

None.

Chapter Four: Empirical Study

None.

Chapter Five: Additional Methods

None.

Chapter Six: Discussion and Critical Review

None.

List of Appendices

2.1 Author guidelines for the *Clinical Psychology Review*

2.2 Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) checklist

2.3 Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) abstract checklist

4.1 Author guidelines for *Military Psychology*

4.2 Ethics Approval

4.3 Survey

4.4 Adapted RAND Military Barriers and Facilitators to Care Item Banks

4.5 Participant Information Sheet

4.6 Online Consent Form

4.7 Debrief Form

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Chapter 1: Introduction to the Thesis Portfolio

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Introduction to the Thesis Portfolio

Mental health difficulties represent a significant global public health concern and are among the leading causes of disability worldwide (Fan et al., 2025; Institute for Health Metrics and Evaluation, 2024). In the United Kingdom (UK), it is estimated that one in four adults will experience a mental health difficulty (McManus et al., 2009). Despite this high prevalence, around 50% of adults with mental health needs in the UK do not receive professional support (Morris et al., 2025). This discrepancy between mental health need and service use is commonly referred to as the 'treatment gap' in mental health literature.

Several factors are thought to contribute to this treatment gap. For example, a proportion of individuals experiencing mental health difficulties do not sufficiently recognise their symptoms as requiring support. One study found that approximately 19% of participants meeting criteria for a mental illness did not recognise their need and were subsequently less likely to seek help (Varma & Batterham, 2025). However, many people do recognise their need and intend to seek help yet never do so. One systematic review of help-seeking among university students found that while 41% of participants reported intentions to seek support, only 28% reported engaging in help-seeking behaviour, indicating a substantial discrepancy between intentions and action (Zhao et al., 2025). This is known as the mental health help-seeking 'intention–action gap'.

There is substantial evidence to indicate that there is a large treatment gap for perinatal mental health (PMH) difficulties. One study found that only 15.8% of mothers with post-natal depression (PND) receive treatment and only 3.2% achieve clinical recovery (Cox et al., 2016). Many mothers are reluctant to seek help for PMH difficulties due to embarrassment, fear of judgment, or concerns about losing parental rights (Boots Family Trust, 2013).

Perinatal Mental Health Among Military Spouses and Partners

Military spouses and partners are at higher risk of experiencing mental health difficulties, including PMH difficulties. For example, military spouses and partners are almost twice as likely

to experience a major depressive episode compared to the general public, a rate similar to that found in post-combat soldiers (Verdeli et al., 2011). Furthermore, 50.7% of military personnel and spouses who become pregnant experience perinatal depression, compared to 27% of the general public (Klaman & Turner, 2016; Howard et al., 2018).

This increased risk is associated with the unique challenges of military family life, such as deployment and relocation (Levine et al., 2015; Robrecht et al., 2008). These challenges may increase vulnerability through several mechanisms, including disruption to social support networks and increased caregiving responsibilities during partner absence (Skomorovsky, 2014; Wheeler & Torres, 2010). These findings are reflected in a scoping review of US military spouses which identified deployment, low social and emotional support, and increased family-related stressors as consistent risk factors for poor PMH (Godier-McBard et al., 2019).

Poor PMH among military spouses and partners negatively affects the entire family. One multicohort longitudinal study of US military spouses found that PMH difficulties are associated with adverse outcomes for infants including increased risk of preterm birth, low birth weight, and birth defects (Bukowinski et al., 2025). Furthermore, family wellbeing is recognised as an important part of the wider military community and the operational functioning of the serving person. The UK Ministry of Defence (MOD) described military families as “one of the most important contributors to the military effectiveness”, particularly by supporting the wellbeing of the serving person (MOD, 2017). In fact, the impact of service life on family and personal life is the most cited factor impacting the serving personnel’s intention to leave the Armed Forces (MOD, 2026a). Therefore, untreated PMH difficulties among military spouses and partners may affect their ability to provide support to the serving person, and possibly the operational effectiveness of the military.

Perinatal Mental Health Treatment Gaps Among Military Spouses and Partners

The PMH treatment gap for military spouses and partners is likely substantial when several barriers to support are considered. Firstly, the 2026 Family Continuous Attitudes Survey (FamCAS; MOD, 2026b) found that 42% of families were able to access mental healthcare without difficulty, 36% were able to access support but only with difficulty, and 22% of families were unable to access mental health support at all. Furthermore, of the families who relocated whilst undergoing mental health treatment, only 39% reported they were able to continue treatment without difficulty, 38% were able to continue treatment with some difficulty, and 26% were unable to continue treatment (MOD, 2026b). Qualitative findings from focus groups of US military spouses with experiences of PMH difficulties also identified relocations and deployments as barriers to treatment and recovery, alongside a lack of support, stigma, accessibility, childcare needs, and transportation (Nguyen et al., 2023). Lastly, military spouses and partners report negative beliefs about seeking mental health support, including beliefs that professionals will not understand military life and that seeking help would harm the serving person's career (Schvey et al., 2021; Nguyen et al., 2023; Eaton et al., 2008).

Policy Context

While MOD and NHS policy and guidance increasingly recognise the importance of family wellbeing and family-inclusive PMH care, there has been limited consideration of how these needs intersect for military families. The UK Armed Forces Families Strategy 2022-2032 acknowledges the important role of military families and their contribution to the operational effectiveness, resilience, and retention of serving personnel (MOD, 2022a). However, under the Armed Forces Covenant, the healthcare of military spouses and partners primarily is provided by the NHS, while Defence Medical Services provide healthcare for serving personnel (MOD, 2022b). Therefore, civilian military spouses and partners experiencing PMH difficulties must access NHS and third-sector providers, which may have limited understanding of military life and a lack of continuity of care following military relocations. This contrasts with other countries

such as the United States, where military families are eligible to access healthcare through an integrated military healthcare system, called TRICARE, alongside civilian services (Department of Defense, n.d.). While vast differences between the UK and US healthcare systems limit direct comparison, this contrast highlights the relative lack of military-provided healthcare for spouses and partners in the UK, despite evidence of elevated needs and barriers to care.

Furthermore, UK PMH clinical practice guidance highlights the importance of family-inclusive care. For example, NICE guidance recommends involving partners and family members in PMH assessment and treatment, where appropriate. The *Involving and Supporting Partners and Other Family Members in Specialist Perinatal Mental Health Services: Good Practice Guide* recognises partners and family members as important sources of support to improve early-identification and intervention, mother and baby wellbeing, maternal recovery, and wider family functioning (NHS England, 2021). However, implementing these recommendations may be particularly challenging for military families where relocations and deployments may limit opportunities for serving personnel and wider family members to participate; meaning military spouses and partners may experience reduced access to family-inclusive care.

Thesis Aims

Military spouses and partners experience elevated rates of PMH difficulties and significant barriers to accessing support, suggesting a large treatment gap within this population. As help-seeking intentions are widely recognised as an important determinant of help-seeking behaviour, understanding the factors that influence intentions may identify opportunities to improve access to care and reduce the treatment gap. Therefore, the overarching aim of this thesis was to quantitatively examine the explanatory role of psychological, social, and contextual factors associated with PMH help-seeking among military spouses and partners using the Theory of Planned Behaviour. Importantly, this thesis uses the

term “mother” but also recognises that PMH difficulties affect individuals who are non-binary, gender diverse, and/or whose gender does not align with their sex assigned at birth.

The thesis aim was addressed through two complementary studies. First, a systematic review and meta-analysis synthesised quantitative evidence of the TPB applied to adult mental health help-seeking (Chapter 2). Second, a cross-sectional study of UK-based military spouses and partners explored the PMH help-seeking experiences, including indicators of the treatment gap within this sample and examined the explanatory role of TPB constructs on future PMH help-seeking intentions (Chapter 3).

Theory of Reasoned Action

Several models of behaviour were considered when conceptualising this thesis. One of the earliest and most influential models of behaviour is Fishbein’s Theory of Reasoned Action (TRA; Fishbein & Ajzen,1975). The TRA was designed to model the cognitive and motivational factors that influence deliberate, intentional decision-making. It is best suited to understanding behaviours that involve conscious planning, such as mental health help-seeking.

The TRA model proposes that behaviours are directly determined by intentions, which are shaped by two key constructs. First, attitudes toward the behaviour reflect an individual’s positive or negative beliefs or evaluations of performing the behaviour. Second, subjective norms reflect the perceived social pressure from others to perform or not perform the behaviour. According to the TRA, individuals are more likely to perform a behaviour if they hold positive attitudes toward it and believe that important others would approve of their actions.

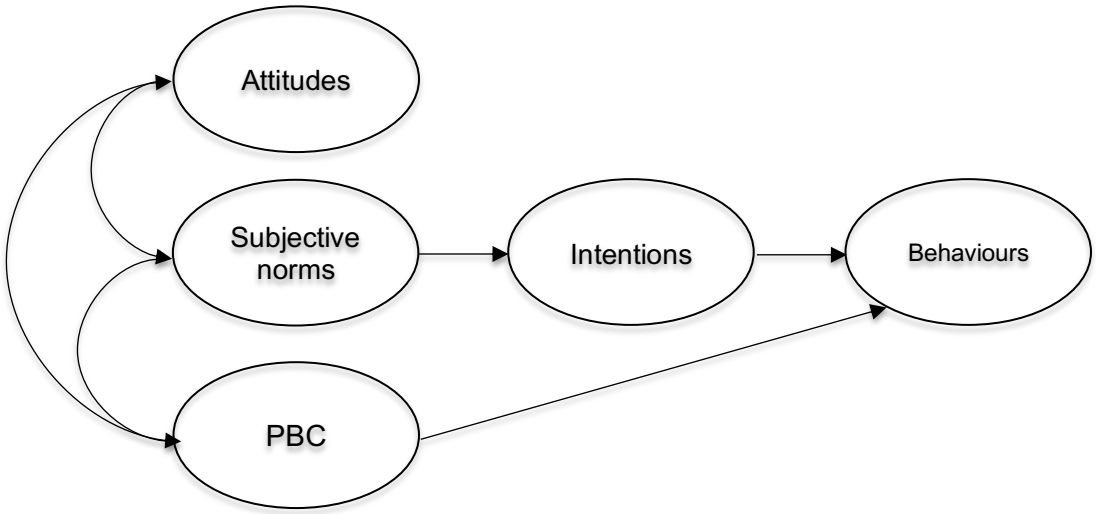
Theory of Planned Behaviour

A key limitation of the TRA is the assumption that individuals have full control over their actions. This assumption can be particularly problematic when considering mental health-related behaviours, where external barriers (e.g., access to services, practical constraints) and internal barriers (e.g., self-efficacy, mental health literacy) may prevent individuals from acting

on their intentions. To address this limitation, Ajzen extended the TRA to develop the Theory of Planned Behaviour (TPB; Ajzen, 1991). The TPB introduces a third construct, perceived behavioural control (PBC), which reflects an individual's perceived ease or difficulty of performing the behaviour and considers both internal and external constraints. See Figure 1 for a diagram of the TPB model.

Figure 1

Theory of Planned Behaviour Diagram



The TPB has been applied to various health-related behaviours, including diet and exercise, safer sex, and drug use and screening (McEachan et al., 2011). In recent years, it has been increasingly used to understand mental health help-seeking across settings and populations. For example, studies have applied the model to examine mental health help-seeking among adolescents in Northern Irish schools, older adults with chronic illnesses in Australia, adults in Hong Kong as part of the population census, and Black university students in the United States (Breslin et al., 2022; Adams et al., 2021; Mo & Mak, 2009; Mesidor et al., 2014).

A recent scoping review of the literature examining the TPB applied to mental health help-seeking in adults identified 49 studies that met the selection criteria (Adams, 2022).

Overall, most studies found that TPB accounted for substantial variance in help-seeking intentions. However, across all studies, the range in variance explained was large (2–93%; Adams, 2022). More specifically, the review found that attitudes toward help-seeking and PBC, or barriers to help-seeking, are consistently found to be significantly associated with mental health help-seeking intentions. However, the evidence for the explanatory value of subjective norms in some populations was mixed.

Measurement of the Theory of Planned Behaviour

The TPB does not prescribe specific measurement instruments, rather each construct is typically operationalised using self-report measures that assess an individual's beliefs and evaluations about the target behaviour. Ajzen published measurement guidance which provided principles for constructing and using measures within TPB research (Ajzen, 2002). This guidance states that measures of attitudes, subjective norms, and PBC (i.e., independent variables) should refer to the same specific help-seeking behaviour, in the same context, and within the same timeframe as the intentions or behaviours (i.e., outcome variable). Ajzen referred to this as the principle of correspondence (Ajzen, 2002). Furthermore, Ajzen emphasised the importance of ensuring that the beliefs used to measure each construct are salient to the population being studied, meaning they reflect the most relevant and influential beliefs that may inform decision-making within that population and context (Ajzen, 1991).

Attitudes are assessed by evaluating the perceived benefits and drawbacks of performing the behaviour. Subjective norms are assessed by evaluating the perceived approval or disapproval from others. Perceived behavioural control is assessed by evaluating beliefs about barriers, facilitators, and confidence in one's ability to act. Intentions are typically measured as the likelihood or willingness to perform the behaviour, while actual behaviour is commonly assessed through self-reported, observed, or recorded performance of the behaviour. The adaptability and flexibility of the TPB have allowed the widespread application of

the model across various populations and contexts, including mental health help-seeking. However, this is also a primary limitation of the model which is discussed further in Chapter 4.

Limitations of the Theory of Planned Behaviour Applied to Mental Health Help-seeking

Despite its widespread use, the TPB has several limitations when applied to mental health help-seeking. First, TPB does not explicitly model earlier stages of the help-seeking process, such as recognising symptoms and appraising them as requiring professional support. Second, while intentions are considered the most proximal determinant of behaviour, intentions to seek help do not always translate into actual help-seeking. The TPB proposes that PBC may directly influence behaviour by reflecting actual behavioural control (i.e., the actual, not merely perceived, ability to perform the behaviour). However, measures of PBC are dependent on whether individuals accurately perceive their ability to perform the behaviour (Ajzen, 1991). Finally, the flexibility of TPB allows researchers to tailor construct measurement to their target populations and behaviours, however, this has resulted in considerable variation in how constructs are operationalised across studies, limiting direct comparison between findings (Adams et al., 2022). Given, these limitations, other models of mental health help-seeking were considered.

Seeking Mental Health Care Model

Another model considered for this thesis was the Seeking Mental Health Care model (SMHC model; McLaren et al., 2022). The SMHC model suggests that stigma and previous treatment experiences (superordinate variables), as well as mental health literacy, causal beliefs, continuum beliefs, and self-efficacy (intermediary variables), influence the process of seeking professional care. The model proposes that these factors interact to shape progression from symptom recognition to self-identification of symptoms as a mental health difficulty, to intention formation, and ultimately to help-seeking behaviour.

While the SMHC model explicitly models earlier stages of the help-seeking process, it was considered less suitable for the aims of the present thesis. The model primarily focuses on internal cognitive and psychological processes and offers less emphasis on broader contextual and structural factors that may be important to military spouses and partners. From a practical perspective, applying the SMHC model would require a greater number of constructs compared to the TPB, substantially increasing the survey length and participant burden. Additionally, the measures for the continuum beliefs and causal beliefs variables are unvalidated and require language translation and adaptation for use within a military and perinatal population. Furthermore, as the SMHC model is relatively recent, it has not yet been widely applied in empirical research, limiting the ability to compare study findings across populations and contexts.

Alternative Models of Behaviour Considered

Several other models of behaviour were also considered but determined to be misaligned with the aims and methodological constraint of this thesis. First, the Health Belief Model (HBM; Becker & Rosenstock, 1984) emphasises perceptions of susceptibility to an illness, symptom severity, benefits of performing a health-related behaviour, and barriers. However, this framework does not model intentions as a key factor and therefore requires the observation or self-report of actual help-seeking behaviour which was beyond the scope of this thesis. Second, the COM-B model proposes that behaviour change is preceded by an individual's capability, opportunity, and motivation (Michie et al., 2011). However, this framework is primarily focused on promoting behaviour change rather than examining intention formation or help-seeking decisions. Lastly, the Integrated Behavioral Model of Mental Health Help-seeking (IBM-HS; Hammer; 2024), incorporates a wide range of psychological, social, and structural influences on help-seeking. However, similarly to the SMHC model, the IBM-HS is a recent model that requires the measurement of a large number of constructs.

Theoretical Rationale and Alignment with Thesis Aims

Ultimately, the TPB was selected as the theoretical framework for this thesis due to its alignment with the study aims and methodological constraints. The TPB has been widely applied within mental health help-seeking research, allowing for the findings of the thesis to be situated within the existing literature. Additionally, in contrast to more complex models, the TPB requires the measurement of a limited number of core constructs, reducing participant burden and ensuring feasibility of the survey design. Importantly, the TPB allows for the consideration of both internal and external influences on the help-seeking and the flexibility of construct measurement. As such, the TPB is well-suited to capturing the unique contextual factors relevant to perinatal mental health help-seeking among military spouses and partners.

Summary

This thesis aims to understand both internal and external factors which may explain help-seeking intentions among UK military spouses and partners. The portfolio includes a systematic review and meta-analysis (Chapter 2) of the quantitative evidence for the TPB applied to adult mental health help-seeking. Chapter 3 provides contextual bridging between the systematic review and empirical study. Chapter 4 contains a cross-sectional study applying the TPB model to PMH help-seeking intentions among UK military spouses and partners. Chapter 5 provides additional methods. Finally, the portfolio concludes with a discussion and critical review of the two studies (Chapter 7).

Chapter 2: Systematic Review

The Theory of Planned Behaviour and Mental Health Help-Seeking in Adults: A Systematic Review and Meta-Analysis

Prepared for Submission to the *Clinical Psychology Review* (Appendix 1.1)

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The Theory of Planned Behaviour and Mental Health Help-Seeking in Adults: A Systematic Review and Meta-Analysis

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Highlights:

- Theory of Planned Behaviour constructs are associated with adult mental health help-seeking intentions
- Attitudes demonstrate the strongest association with help-seeking intentions across studies
- Subjective norms show weaker and less consistent associations with help-seeking
- Perceived behavioural control is associated with intentions but is inflated by small-study bias
- Findings indicate applying the model to help-seeking is useful but inconsistent

Abstract

Mental health disorders are a substantial global health burden, yet many adults with common mental health difficulties do not receive treatment. This review aimed to meta-analytically quantify associations between Theory of Planned Behaviour (TPB) constructs and adult mental health help-seeking intentions and behaviours. PsychINFO, MEDLINE, and CINAHL were searched until July 2025. Eligible studies included peer-reviewed, English-language, quantitative studies of adults applying the TPB model to examine help-seeking intentions and/or behaviours. Risk of bias was assessed using the Joanna Briggs Institute checklist for cross-sectional studies. Standardised regression coefficients were extracted or converted. Two multivariate multilevel random-effects meta-analyses examined the comparative strength of the associations between TPB constructs and a) help-seeking intentions and b) help-seeking behaviours. Additional univariate multilevel meta-regressions examined moderation and subgroup effects. Forty-four studies were included (total N = 28,945), with 38 studies contributing to the meta-analyses. Attitudes (β = 0.245, p < .001, 95% CI [0.177, 0.312]), subjective norms (β = 0.170, p < .001, 95% CI [0.114, 0.227), and PBC (β = 0.150, p < .001, 95% CI [0.095, 0.206]) were significantly associated with help-seeking intentions, with high inconsistency but only moderate between-study variance. Conversely, only attitudes were associated with help-seeking behaviour (β = 0.216, p < .001, 95% CI [0.123, 0.309]). Study region moderated the association between PBC and intentions. Small study effects were shown for all constructs. Overall, TPB offers a useful but inconsistent framework for adult mental health help-seeking, with attitudes demonstrating the most robust association and PBC demonstrating greater sensitivity to small-study bias and contextual factors such as region.

Keywords: theory of planned behaviour, mental health, help-seeking, meta-analysis

PROSPERO registration number: CRD420251001310

The Theory of Planned Behaviour and Mental Health Help-Seeking in Adults: A Systematic Review and Meta-Analysis

Mental health disorders are becoming a considerable global health concern. Between 1990 and 2021, the global incidence rate of mental health disorders increased approximately 15% (Fan et al., 2025). Mental health disorders are ranked as the sixth leading cause of global health burden; an increase from ninth place in 1990 (Institute for Health Metrics and Evaluation, 2024). Furthermore, forecasts from the Global Burden of Disease study have projected that the global health burden of mental health disorders, measured in disability-adjusted life-years (DALYs), will increase by 35% by 2050 (Vollset et al., 2024). However, when measuring the age-standardised DALY rate, the estimated global health burden remains relatively stable, suggesting that population growth and ageing are primarily responsible for the projected increase (Vollset et al., 2024).

Despite this, more than half of people with common mental health disorders in the United Kingdom and the United States do not receive treatment (Morris et al., 2025; Substance Abuse and Mental Health Services Administration, 2023). This rate is even higher in low and middle-income countries, where 90% of people with depression and 72% of people with anxiety do not receive treatment (Thornicroft et al., 2017; Alonso et al., 2018). Common barriers to treatment include a lack of service provision, mistrust of professionals, perceived stigma, financial costs, and physical health conditions (Wainberg et al., 2018; Corscadden et al., 2019). Furthermore, the duration of untreated mental health disorders is associated with poorer outcomes, such as reduced quality of life, increased risk of suicidality, and greater levels of disability (Kisley et al., 2006). Therefore, it is important to further understand the individual and systemic factors that influence mental health help-seeking to inform service delivery and promote service utilisation.

Understanding Mental Health Help-seeking

The Theory of Planned Behaviour is a widely used model for understanding and predicting behaviours (TPB; Ajzen, 1991). According to the TPB model, behaviour is preceded by behavioural intentions, which are determined by three core constructs: a) attitudes: the individual's positive or negative evaluations of the behaviour, b) subjective norms: the individual's perceived social pressure to perform or not perform the behaviour, and c) perceived behavioural control (PBC): the perceived ease or difficulty of performing the behaviour. The model has been widely applied to mental health help-seeking in various populations, such as older adults with chronic disease in Australia and Black university students in the United States (Adams et al., 2021; Dai & Morgan, 2021).

A recent scoping review of studies using the TPB model to examine mental health help-seeking found that attitudes toward help-seeking and PBC are consistently associated with intentions (Adams et al., 2022). However, evidence was mixed for the explanatory value of subjective norms in some populations (Adams et al., 2022). The model also often accounted for large amounts of variance in help-seeking intentions, although the overall range in variance explained was wide (2%-93%; Adams et al., 2022).

To our knowledge, no review has quantitatively synthesised the explanatory strength of each TPB construct in relation to help-seeking intentions and behaviours. The previous scoping review summarised the literature and examined the presence and direction of associations between TPB constructs and mental health help-seeking (Adams et al., 2022). The current review aims to conduct a meta-analysis of standardised regression coefficients (β) to compare the relative strength of each TPB construct. Furthermore, the current review also examines whether the strength the associations between each TPB construct and help-seeking intentions is moderated by population group (students vs. general adults), study region, publication year,

study quality, help-seeking source (formal vs. informal), type of mental health difficulty, and publication bias.

Methods

PROSPERO Registration

The review was prospectively registered with PROSPERO (registration number: CRD420251001310).

Eligibility Criteria

Studies were included if they a) quantitatively examined adult mental health help-seeking intentions or behaviours for themselves, rather than someone else (e.g., their child), b) explicitly applied the complete TPB model to examine mental health help-seeking (i.e., attitudes, subjective norms, and PBC), and c) were peer reviewed and available in the English language, due to language and resource constraints.

Studies that omitted one or more TPB constructs were excluded. Additionally, studies which examined mental health help-seeking for others (e.g., a parent or teacher seeking help for a child's mental health) were excluded. No restrictions were applied based on geographical area, as TPB has been widely used across diverse cultural settings, and the review aimed to examine the influence of region on the strength of the association between the TPB constructs and intentions. Furthermore, both clinical and non-clinical populations were included to reflect a conceptualisation of help-seeking as a decision-making process which can occur prior to clinical need or service contacts.

Qualitative or intervention design studies were excluded because the review focused on the associations between TPB constructs and help-seeking intentions and behaviours, rather than the experiences of help-seeking or intervention effects on TPB constructs. All other study designs were included. Finally, no restrictions were placed on the instruments used to measure TPB constructs due to a lack of gold standard measurement tools. Studies applying TPB often

use bespoke or adapted questionnaires tailored to the population or help-seeking context (Adams et al., 2022).

Search Strategy

Searches were conducted across PsycINFO, MEDLINE, and CINAHL, using the search terms outlined in Table 1, with concepts combined using the Boolean operator "AND." The search strategy prioritised broad references to the TPB model rather than individual construct terms such as “attitudes” to ensure that included studies explicitly examined the TPB framework as a whole. Including the individual terms would have likely increased the number of irrelevant records as the individual constructs, such as attitudes, are present across many theoretical models of behaviour. Furthermore, mental health-related search terms were broad, rather than exhaustive, to capture studies referring to mental health difficulties using common terminology. Study eligibility was determined by the aforementioned criteria, rather than specific diagnoses. Furthermore, the reference lists of all included studies were screened using Citation Chaser or manually for additional articles (Haddaway et al., 2021). Final searches were conducted in July 2025, with no restrictions on publication date.

Table 1

Search Terms

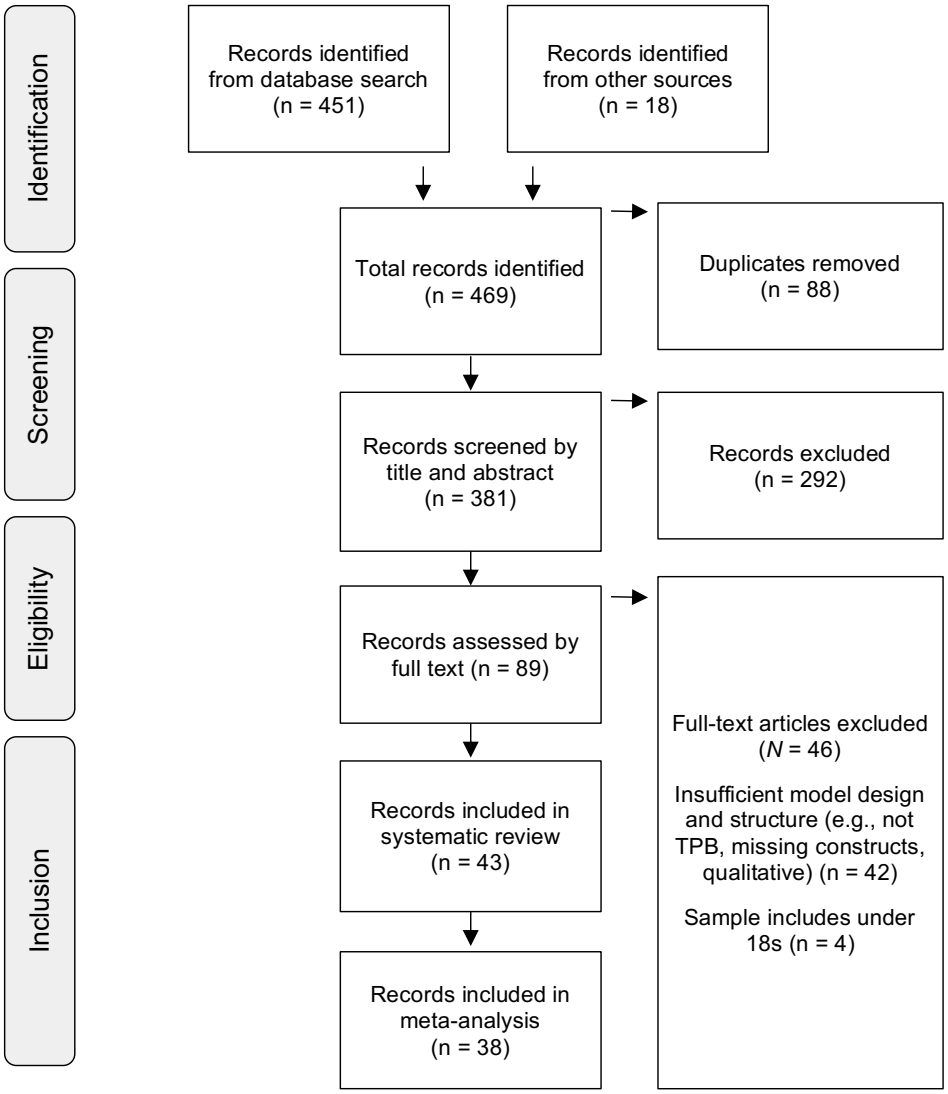
Concept	Search Terms	Location
Theory of Planned Behaviour	("Theory of Planned Behaviour" OR "Theory of Planned Behaviour" OR "Theory of Planned Behavior" OR "Ajzen" OR "TPB")	Any
Mental Health	("mental health" OR "mental illness" OR "psychological difficult" OR "psychiatric disorder" OR "psychiatric illness" OR "affective disorder" OR "mental health difficult" OR "mental health condition*" OR "psychiatric condition" OR "post-trauma*" OR "PTSD" OR "depressi*" OR "anxiet*" OR "psychosis" OR "psychotic" OR "OCD" OR "obsessive compulsive" OR "schizo*" OR "suicid*")	Any
Help-Seeking	("help-seeking" OR "help seeking" OR "service utilization" OR "service utilisation" OR "service use" OR "access" OR "self-referral" OR "seek help" OR "seek treatment" OR "treatment seeking" OR "seek therapy" OR "therapy seeking" OR “counseling” OR “counselling”)	Any

The first author screened titles and abstracts, excluding irrelevant articles. The first author then screened the remaining full-text articles according to the outlined inclusion criteria. The second author screened 20% of both abstracts and included full-text articles with substantial inter-rater agreement, as assessed by Cohen’s kappa (κ = 0.74 and 0.76; Landis & Koch, 1977). Disagreements were resolved by discussion. Figure 1 illustrates a PRISMA 2020 flow diagram of the study selection process.

The relatively small number of records identified in the initial search reflects the specificity of the search terms, which required explicit application of TPB to mental health help-seeking. The number of final included papers is consistent with the existing scoping review of the literature (Adams et al., 2022).

Figure 1

PRISMA Diagram



Data Extraction

The first author independently extracted study characteristics, sample demographics, TPB constructs measured, outcome type (intentions, behaviours, or both), study design, regression coefficients, standard errors (*SE*), TPB construct correlation coefficients (Pearson's *r*), and any additional information required for conversion to standardised β coefficients (e.g., odds ratios, p-values, standard deviations, confidence intervals). The extracted or converted

regression coefficients are hereafter referred to as the “effects”. If missing, SEs were estimated using the relationship between β and z-score, where z was derived from the reported p-value (e.g., $z = 3.29$ for $p < .001$).

$$SE = \frac{\beta}{Z}$$

Where only non-significance was reported (e.g., $p > .05$ or n.s.), conservative z-scores (e.g., $z = 0.67$) were assumed (Hunter & Schmidt, 2004; Borenstein et al., 2021)

Within-study Correlations

To conduct multivariate meta-analyses, within-study correlations between constructs are needed to calculate the variance-covariance matrices. For studies that did not report the correlation coefficients between TPB constructs, missing values were imputed using the mean correlation values observed across all other studies (attitudes and subjective norms: average $r = 0.33$, attitudes and PBC: average $r = 0.32$, and subjective norms and PBC: average $r = 0.19$). Previous simulation research indicates that treatment effect estimates in multivariate meta-analyses are minimally affected by approximations, even poor estimates (Ishak et al., 2008). Therefore, mean imputation is unlikely to have significantly biased the pooled estimates. All SEs were squared to calculate variances.

Aggregated Effects

Where studies reported more than one measure of a single TPB construct (e.g. splitting subjective norms into descriptive norms and injunctive norms or splitting attitudes into positive and negative attitudes), effects were aggregated before analysis. Aggregation prevented the overrepresentation of studies reporting multiple measures of single TPB constructs. In such case, the standardised β coefficients were averaged, and combined SEs were calculated as the square root of the sum of the squared SEs of the individual effects. This approach ensured that each study contributed only one independent effect size per TPB construct per outcome. Where

studies reported multiple independent samples (e.g., different geographic samples), each sample was treated as a separate study.

$$\beta aggregated = \frac{\beta_X + \beta_Y}{2} \qquad SEaggregated = \sqrt{\frac{SE_X^{\,2} + SE_Y^{\,2}}{4}}$$

Converted Effects

Following Chinn (2000), where studies reported odds ratios (ORs) from logistic regressions, ORs were converted into β using the following formula:

$$\beta = \frac{ln(OR)}{1.81}$$

In these cases, SEs were estimated from 95% confidence intervals (CIs) or p-values where necessary. Unstandardised regression coefficients were converted to β using the ratio of standard deviations of the predictor (SD_X) and outcome (SD_Y) as outlined by Cohen et al. (2003):

$$\beta = B \times \left(\frac{SD_X}{SD_Y}\right)$$

Synthesis Methods

Two multivariate multilevel meta-analyses were conducted to examine the associations between TPB constructs and a) help-seeking intentions and b) help-seeking behaviours. All analyses were conducted using R (version 2025.05.0+496; Posit Software, 2025) and the metafor package (Viechtbauer, 2010).

Random-effects meta-analyses were conducted using the restricted maximum likelihood (REML) estimator, which accounts for expected heterogeneity across studies (Viechtbauer, 2010). This approach was deemed appropriate given the expected variation in true effect sizes across studies due to differences in participant samples, study designs, operationalisation of the TPB constructs, and outcome measures (Borenstein et al., 2021). Forest plots were generated

for each TPB construct-outcome combination to visually display individual study effect sizes and pooled random-effects estimates.

Between-study heterogeneity was assessed using τ^2 estimates, which provided an absolute measure of between-study variance in standardized β coefficient sizes. I^2 values were also reported to describe inconsistency across studies, or the proportion of observed variance due to between-study heterogeneity, rather than sampling error.

To explore heterogeneity and assess the robustness of the findings, supplementary univariate multilevel meta-analyses were conducted for each TPB construct separately. These analyses examined whether the strength of individual TPB associations with help-seeking intentions varied across study characteristics, focusing on within-construct moderation rather than comparisons between TPB constructs. Given the number of moderator analyses, the Holm-Bonferroni correction was applied (Holm, 1979). This approach provided a less conservative adjustment compared to a Bonferroni correction while maintaining control of the family-wise error rate (Aickin & Gensler, 1996).

Due to the limited number of studies reporting help-seeking behaviours, all additional analyses were performed with help-seeking intentions only. Publication bias was assessed visually using contour-enhanced funnel plots and Egger's tests. Additionally, the Precision Effect Test-Precision Effect Estimate with Standard Error Squared (PET–PEESE) approach was used to provide bias-adjusted pooled effects (Stanley & Doucouliagos, 2014).

Appraisal of selected studies

Study quality was primarily assessed using the Joanna Briggs Institute Critical Appraisal Checklist for Analytical Cross-Sectional Studies (JBI; Vardell & Malloy, 2013), a recommended tool for appraising cross-sectional studies (Ma et al., 2020) The JBI was used to appraise studies examining associations between TPB constructs and help-seeking intentions measured at the same point in time. Additionally, the Quality in Prognosis Studies (QUIPS) tool was used

where studies included a prospective follow-up to examine the associations between the TPB constructs and subsequent help-seeking behaviour. The QUIPS was used as a supplementary appraisal to assess sources of bias specific to the prospective components of these studies. Studies were independently rated by the first and second authors with moderate inter-rater agreement, as assessed by Cohen's kappa ($\kappa = 0.53$). Disagreements were resolved by discussion.

Results

Screening and Selection

A total of 43 studies were included in the systematic review. Three studies were excluded from the meta-analysis due to insufficient model structure (Engelhardt et al., 2023; Widyatmiko & Surjaningrum, 2022; Stecker et al., 2010). Two additional studies were excluded due to sample duplication (Shi et al., 2020; Hyland et al., 2012). Therefore, a total of 38 studies contributed to the meta-analysis.

Study Characteristics

Table 2 summarises the study characteristics. Sample sizes ranged from 50 to 10,705, totaling 28,381 participants. Of the 28 studies that reported mean age, the total mean age across studies was 33.6 years with an average standard deviation of 7.02 years. Gender data was reported in 41 studies, resulting in an average of 42.62% female, 57.38% male, and 0.06% identifying as nonbinary, transgender, or 'other' gender. Across the 23 studies that reported ethnicity data, 47.65% of participants were Asian, 34.12% were White, 7.94% were Black, 5.97% were categorised as "Other", 3.5% were Hispanic or Latino/a, 0.58% were multi-racial, 0.23% were Native American or Alaskan.

Table 2

Study characteristics

Authors (Year)	Country	Design	TPB Measurement	Outcome	Population	N	Mean Age (SD)	Gender (% Female)
Adams et al (2021)	Australia	Cross-sectional questionnaire survey	Study-developed TPB questionnaire developed using Ajzen's guidance and the Francis et al (2004) manual.	Study-developed; formal help-seeking intentions	Older adults with chronic illness	107	74.98 (7.22)	53.3%
Aldalaykeh et al (2019)	Jordan	Cross-sectional questionnaire survey	Arabic translation of the Mo and Mak (2009) TPB questionnaire.	Formal help-seeking intentions translated from Mo and Mak (2009)	University students	134	20.2 (1.6)	63.4%
Andrykowski & Burris (2010)	USA	Cross-sectional questionnaire and telephone interview	Study-developed questionnaire informed by TPB guidance.	Study-developed; self-reported use of multiple mental health resources since diagnosis	Cancer survivors	113	56.8 (9.2)	68%
Asad & Dawood (2025)	Pakistan	Cross-sectional questionnaire survey	Inventory of Attitudes Toward Seeking Mental Health Services (IASMHS; Mackenzie et al., 2004) subscales mapped onto TPB constructs.	Formal help-seeking intentions assessed by the Intentions to Seek Counseling Inventory (ISCI; Cash et al., 1975)	University students	450	20.80	52.9%
Britt et al. (2011)	USA	Cross-sectional questionnaire survey	Study-developed TPB questionnaire.	Self-reported treatment/help-seeking in the previous six months	U.S. National Guard	760	NR	11%
Chandrasekara (2016)	Sri Lanka	Cross-sectional questionnaire survey	IASMHS subscales mapped onto TPB constructs.	Intention to seek psychological help using a vignette-based General Help-Seeking Questionnaire (GHSQ; Wilson et al., 2011)	University students	600	NR	47.7%

Table 2 Continued

Authors (Year)	Country	Design	TPB Measurement	Outcome	Population	N	Mean Age (SD)	Gender (% Female)
Chen et al (2016)	USA	Cross-sectional questionnaire survey	Attitudes Toward Seeking Professional Psychological Help Scale–Short Form (ATSPPH-SF; Fischer and Farina, 1995); Discrimination-Devaluation scale (aD-D) adapted for college student populations (Eisenberg et al., 2009); Barriers to Treatment Participation Scale (Kazdin et al., 1997)	Intentions to seek formal help (GHSQ formal subscale; Wilson et al., 2005)	University students	212	20.24	86.3%
Cuyler & Guerrero (2019)	USA	Cross-sectional questionnaire survey	Mo and Mak's (2009) TPB questionnaire adapted to the active-duty military context.	Formal help-seeking intentions adapted from Mo and Mak (2009)	Active-duty military	107	35.3	28%
Dai & Morgan (2021)	USA	Mixed methods; interviews followed by a cross-sectional quesetionnaire survey	Study-developed questionnaire informed by belief elicitation and Ajzen guidance. Subjective norms were operationalised as injunctive and descriptive norms measured separately.	Study developed; intentions and previous communication about mental health with informal/professional contacts	Black university students	128	21.14 (1.78)	NR
Dumaop (2023)	Philippines	Cross-sectional questionnaire survey	Mental Help-Seeking Attitude Scale (MHSAS; Hammer et al., 2018); injunctive norms adapted from Ajzen et al (2011); descriptive norms adapted from van der Linden (2015); PBC adapted from Ajzen et al (2011)	Mental Help-Seeking Intention Scale (MHSIS; Hammer & Spiker, 2018	Atheist and agnostic adults	276	28.73 (8.68)	34.7%
Engelhardt et al (2023)	USA	Cross-sectional secondary analysis of the 2017 Air Force Community Feedback Tool	Secondary survey items mapped onto TPB constructs. No dedicated TPB questionnaire was administered.	Secondary survey items mapped to intentions (perceived need, provider contact and adequacy of help received)	Active-duty Air Force members	10,705	NR	30.4%

Table 2 Continued

Authors (Year)	Country	Design	TPB Measurement	Outcome	Population	N	Mean Age (SD)	Gender (% Female)
Erdem et al (2018)	Turkey	Cross-sectional questionnaire study	Online Counseling Attitude Scale - Turkish (Demirci et al., 2014) and study-developed scales for subjective norms and PBC.	Study-developed; intentions and behaviour toward seeking online counselling	University students	480	NR	33.54%
Goto et al (2025)	USA	Cross-sectional questionnaire study	Study-developed questionnaire informed by belief elicitation and Ajzen guidance.	Study-developed; intentions to seek help from friends/ family, mental health professionals and law enforcement	Older East and Southeast Asian Americans	174	73.5	64.2%
Hess & Tracey (2013)	USA	Cross-sectional questionnaire survey	Study-developed TPB questionnaire informed by Ajzen's recommendations. PBC was separated into perceived access to therapy and perceived ability to manage the problem independently.	Study-developed; intentions for formal help-seeking	University students	889	20.4	62%
Hyland et al (2012a)	Ireland	Cross-sectional questionnaire survey	Study-developed TPB questionnaire informed by Ajzen's guidance; compared standard PBC with separate self-efficacy and controllability constructs.	Study-developed; intentions for formal help-seeking	Irish police	259	27.72 (6.46)	33.98%
Hyland et al (2012b)	Ireland	Cross-sectional questionnaire survey	Study-developed TPB questionnaire informed by Ajzen's guidance; compared standard PBC with separate self-efficacy and controllability constructs.	Study-developed; intentions for formal help-seeking	Irish front-line emergency services personnel	259	27.72 (6.46)	34%

Table 2 Continued

Authors (Year)	Country	Design	TPB Measurement	Outcome	Population	N	Mean Age (SD)	Gender (% Female)
Karras et al (2018)	USA	Cross-sectional telephone survey	Study-developed TPB questionnaire informed by Ajzen's guidance. Injunctive and descriptive norms were measured separately.	Study-developed; intentions to seek formal help for suicidal thoughts and behaviours and general mental health concerns	Middle-aged military veterans	809	NR	16.2%
Kelly et al (2016)	Australia	Prospective questionnaire study (baseline cross-sectional TPB survey with 2-week behavioural follow-up)	Study-developed informed by Ajzen's guidance.	Study-developed; intention to attend treatment, then verified attendance at treatment at follow-up	Adults undergoing drug and alcohol detoxification	220	36.99	17%
Lagunas et al (2023)	USA	Cross-sectional questionnaire survey	MHSAS (Hammer et al., 2018); source of subjective norms and PBC scales unclear	Formal help-seeking intentions, source unclear	Asian American adults	231	27.0 (9.13)	51% (2.6% diverse)
Lee et al (2016)	Canada	Cross-sectional questionnaire survey	CAF Recruit Mental Health Service Use Questionnaire (CAF-R-MHSUQ; Fikretoglu et al., 2019)	Formal help-seeking intentions	Adult military recruits	244	22.6 (4.8)	12.7%
Lee et al (2022)	South Korea	Cross-sectional questionnaire survey	Study-developed questionnaire informed by belief elicitation and Ajzen guidance.	Intention to seek professional help adapted from Francis et al., 2004	University students	300	23.66 (2.83)	50%
Logsdon et al (2018)	USA	Cross-sectional questionnaire survey	ATSPPH-SF (Fischer & Farina, 1995); Stigma Scale for Receiving Psychological Help (SSRPH; Komiya et al., 2000); Health Self-Determinism Index (Cox et al., 1985)	Mental Health Intention Scale adapted from Gerend et al. (2006)	Latina immigrant mothers within 1 week postpartum	50	27.9 (6.2)	100%

Table 2 Continued

Authors (Year)	Country	Design	TPB Measurement	Outcome	Population	N	Mean Age (SD)	Gender (% Female)
Mak & Davis (2014)	Macao	Cross-sectional questionnaire survey	Study-developed questionnaire informed by belief elicitation, Ajzen guidance, and Mo & Mak (2009).	Formal help-seeking intentions adapted from Mo & Mak (2009).	Adult residents of Macao	337	34.23	52.5%
McIntyre et al (2019)	Australia	Cross-sectional questionnaire survey	Study-developed questionnaire informed by belief elicitation and Ajzen guidance.	Intention to use herbal medicine to treat anxiety	Adults with lifetime anxiety symptoms who have used herbal medicine	400	49.1	49%
Mesidor & Sly (2014)	USA	Cross-sectional questionnaire survey	IASMHS; Mackenzie et al., 2004	ISCI; Cash et al., 1975	International and African American university students	111	NR	54.1%
Mo & Mak (2009)	Hong Kong	Cross-sectional questionnaire survey	Study-developed questionnaire informed by belief elicitation and Ajzen guidance.	Formal help-seeking intentions	Adult community, random household selection	941	41.41	44.6%
Naumova (2022)	North Macedonia	Cross-sectional questionnaire survey	IASMHS; Mackenzie et al., 2004	GHSQ (Wilson et al., 2005)	Macedonian adults	470	39.7 (13.5)	51%
Pan & Hao (2023)	China	Cross-sectional questionnaire survey	Seeking Professional Psychological Help Scale (Hao & Liang, 2007); Stigma toward Seeking Professional Psychological Help Scale (Hao & Liang, 2011b); Coping Efficacy Scale (Tong, 2005)	Intention to Seek Professional Psychological Help Scale (Hao & Liang, 2011a)	University students with psychological distress	319	NR	57.4%
Pham et al (2020)	Vietnam	Cross-sectional questionnaire survey	IASMHS; Mackenzie et al., 2004	Formal help-seeking intentions	University students	108	NR	64.8%

Table 2 Continued

Authors (Year)	Country	Design	TPB Measurement	Outcome	Population	N	Mean Age (SD)	Gender (% Female)
Pumpuang et al (2018)	Thailand	Cross-sectional questionnaire survey	Study-developed informed by Ajzen's guidance.	Formal help-seeking intentions	Undergraduate nursing students	343	NR	98%
Schomerus et al (2009)	Germany	Cross-sectional questionnaire survey	Study-developed questionnaire informed by belief elicitation and Ajzen guidance. PBC operationalised as self-efficacy and perceived controllability measured separately.	Likelihood participants would seek formal psychiatric treatment following vignette	Adult German nationals	2,303	NR	52.5%
Shi & Kim (2020)	Singapore	Cross-sectional questionnaire survey	Study-developed questionnaire informed by Ajzen guidance and the Risk Perception Attitude (RPA) framework; injunctive and descriptive norms measured separately; PBC operationalised as self-efficacy	Formal help-seeking intentions	University students	232	21.34 (1.75)	62%
Shi et al (2020)	Singapore & Hong Kong	Cross-sectional multi-sample questionnaire survey	Study-developed questionnaire informed by Ajzen guidance; injunctive and descriptive norms measured separately; PBC operationalised as self-efficacy.	Formal help-seeking intentions	University students	1,230	SG: 21.34 HK: 20.70	SG: 62% HK: 87%
Shi & Hall (2021)	China	Cross-sectional questionnaire survey	Study-developed TPB questionnaire.	Formal help-seeking intentions	University students	1,896	20.9	71.6%
Stecker et al (2010)	USA	Prospective questionnaire study (baseline cross-sectional TPB survey with 3-month behavioural follow-up)	Study-developed TPB questionnaire developed using Ajzen's guidance and the Francis et al (2004) manual.	Intention to attend mental health treatment; behaviour assessed at follow-up	National Guard veterans with mental health disorders	150	31	12%

Table 2 Continued

Authors (Year)	Country	Design	TPB Measurement	Outcome	Population	N	Mean Age (SD)	Gender (% Female)
Taylor & Kuo (2020)	Canada	Cross-sectional questionnaire survey	TPB questionnaire from Mo & Mak (2009)	Formal help-seeking intentions	Community-based Black Canadian adults	294	36.38	84.7% (1.7% diverse)
Tomczyk et al (2020)	Germany	Cross-sectional questionnaire survey	TPB questionnaire from Schomerus et al. (2009)	Formal help-seeking intentions adapted from the GHSQ (Wilson et al., 2005) and self-reported help-seeking behaviour	Adults with untreated depressive symptoms	188	50.34	70.7%
Wang et al (2024)	China	Cross-sectional questionnaire survey	Study-developed questionnaire informed by belief elicitation and Ajzen guidance.	Formal help-seeking intentions	Nurses and medical doctors	403	NR	72.5%
Westerhof et al (2008)	Netherlands	Cross-sectional questionnaire survey	ATSPPH-SF (Fischer & Farina, 1995), plus the stigma tolerance subscale from the long form version (Fischer & Turner, 1970)	ISCI; Cash et al., 1975	Community-based older adults	167	69.8	52.1%
Widyatmiko & Surjaningrum (2022)	Indonesia	Cross-sectional questionnaire survey	ATSPPH-SF (Fischer & Farina, 1995); SSRPH (Komiya et al., 2000); Self Stigma of Seeking Help Scale (Vogel et al., 2006)	Mental Help-seeking Intention Scale (MHSIS; Hammer & Spiker, 2018)	Emerging adults with divorced parents	118	NR	NR
Yee & Caballos (2023)	USA	Cross-sectional questionnaire survey	ATSPPH-SF (Fischer & Farina, 1995); SSRPH (Komiya et al., 2000); Loss of Face scale (LOF; Zane & Yeh, 2002); Help-Seeking Propensity subscale of IASMHS (Mackenzie et al., 2004)	Psychological and Interpersonal Concerns subscale from ISCI (Cash et al., 1975)	Chinese adult population in the U.S.	251	32.56 (9.61)	59.8% (1.2% diverse)

Table 2 Continued

Authors (Year)	Country	Design	TPB Measurement	Outcome	Population	N	Mean Age (SD)	Gender (% Female)
Yee & Ryan (2022)	USA	Cross-sectional questionnaire survey	ATSPPH-SF (Fischer & Farina, 1995); Stigmatization by Others for Seeking Psychological Help Scale (PSOSH; Vogel et al., 2009); Help-Seeking Propensity subscale of IASMHS (Mackenzie et al., 2004	ISCI; Cash et al., 1975	International university students	183	22.7	64.5%
Zorrilla et al (2019)	USA	Cross-sectional questionnaire survey	Study-developed TPB questionnaire adapted by Mo & Mak (2009) and a vignette from Reavley et al., 2014)	Formal help-seeking intentions	Community-based young adults	430	NR	58.6% (2.1% diverse)

Note. NR = not reported, SG = Singapore, HK = Hong Kong

Publication years ranged from 2008 to 2025. Most studies were conducted in North America (*n* = 19) and Asia (*n* = 15), with fewer studies in Europe (*n* = 7), Australia (*n* = 3), and the Middle East (*n* = 1). Most studies recruited from university student populations (*n* = 17), the general public (*n* = 14), or both students and the general public (*n* = 2). Six studies recruited participants from military populations, including veterans, recruits, active-duty, and reserve members. Fewer studies recruited samples of police officers (*n* = 2), healthcare workers (*n* = 1), cancer survivors (*n* = 1), psychiatric inpatient settings (*n* = 1), and drug and alcohol rehabilitation centres (*n* = 1).

The sources of help varied; 38 studies examined formal sources of help (i.e., professional support), and five examined both formal and informal support. Furthermore, while most studies (*n* = 36) examined help-seeking for any general, unspecified mental health difficulty, four studies specified depression, one study specified anxiety, one study specified drug or alcohol misuse, and one study specified suicidality.

Study Outcomes

All studies measured the core TPB constructs as independent variables in relation to either help-seeking intentions or help-seeking behaviour. The majority of studies (*n* = 38) measured help-seeking intentions, while two studies measured only help-seeking behaviour, and three studies measured both help-seeking intentions and behaviour. Therefore, behaviour findings are limited and exploratory. All studies reported at least one significant association between a TPB either help-seeking intentions or behaviours. Thirty-eight studies reported significant associations for attitudes, 32 studies for subjective, and 33 studies for PBC. Studies used a mix of structural equation modelling (SEM), multiple regression, and logistic regression analyses. Variance explained for help-seeking intentions ranged from 6.8% to 92.6%, with an average of 39.75%.

Risk of Bias Assessment

Study quality ranged from 4 to 8 points on the JBI, with an average of 6.62 out of 8 points (see Table 3). Most studies clearly described their participants and study settings (97.7%), measured TPB constructs using valid and reliable methods (93%), measured outcomes appropriately (97.7%), and used appropriate statistical analyses (100%). Approximately one-fifth of studies (*n* = 8; 18.6%) did not clearly report their inclusion criteria. Fewer than half of the include studies identified potential confounding factors (*n* = 20; 46.5%) or employed statistical strategies to control for confounding factors, such as gender, age, ethnicity, education, and socioeconomic status (*n* = 19; 44.2%).

Kelly et al. (2016) and Stecker et al. (2010) were additionally appraised using the Quality in Prognosis Studies (QUIPS) tool to evaluate the longitudinal components of their study designs. Kelly et al. (2016) was judged to be at low risk of bias across all domains, whereas Stecker et al. (2010) was judged to be at overall moderate risk of bias due to limited statistical analysis reporting and a lack of clarity regarding study attrition.

Table 3

Summary of JBI Scores and Scoring Rationale

Authors (Year)	JBI Score	Scoring Rationale
Adams et al (2021)	8/8	All criteria met.
Aldalaykeh et al (2019)	6/8	Did not identify or address confounding factors.
Andrykowski & Burris (2010)	6/8	Did not identify or address confounding factors.
Asad & Dawood (2025)	6/8	Did not identify or address confounding factors.
Britt et al (2011)	5/8	Weak internal consistency of TPB measures and did not identify or address confounding factors.
Chandrasekara (2016)	5/8	Did not clearly define inclusion criteria and did not identify or address confounding factors.
Chen et al (2016)	6/8	Did not identify or address confounding factors.

Table 3 Continued

Authors (Year)	JBI Score	Scoring Rationale
Cuyler & Guerrero (2019)	7/8	Did not clearly define inclusion criteria.
Dai & Morgan (2021)	5/8	Did not identify or address confounding factors.
Dumaop (2023)	8/8	All criteria met.
Engelhardt et al. (2023)		Did not clearly measure TPB constructs or help-seeking outcomes in a valid and reliable way.
Erdem et al (2018)	5/8	Did not clearly define inclusion criteria and did not identify or address confounding factors.
Goto et al (2025)	8/8	All criteria met.
Hess & Tracey (2013)	5/8	Did not clearly define inclusion criteria and did not identify or address confounding factors.
Hyland et al (2012a)	7/8	Did not clearly define inclusion.
Hyland et al (2012b)	7/8	Did not clearly define inclusion.
Karras et al (2018)	8/8	All criteria met.
Kelly et al (2016)	8/8	All criteria met.
Lagunas et al (2023)	4/8	Did not clearly define inclusion criteria, did not clearly measure TPB constructs validly, and did not identify or address confounding factors.
Lee et al (2016)	8/8	All criteria met.
Lee & Shin (2022)	8/8	All criteria met.
Logsdon et al (2018)	6/8	Did not identify or address confounding factors.
Mak & Davis (2014)	6/8	Did not identify or address confounding factors.
McIntyre et al (2019)	6/8	Did not identify or address confounding factors.
Mesidor & Sly (2014)	6/8	Did not identify or address confounding factors.
Mo & Mak (2009)	6/8	Did not identify or address confounding factors.
Naumova (2022)	6/8	Did not identify or address confounding factors.
Pan & Hao (2023)	6/8	Did not identify or address confounding factors.

Table 3 Continued

Authors (Year)	JBI Score	Scoring Rationale
Pham et al (2020)	5/8	Did not clearly define inclusion criteria and did not identify or address confounding factors.
Pumpuang et al (2018)	6/8	Did not identify or address confounding factors.
Schomerus et al (2009)	8/8	All criteria met.
Shi & Kim (2020)	8/8	All criteria met.
Shi et al (2020)	8/8	All criteria met.
Shi & Hall (2021)	7/8	Did not address confounding factors.
Stecker et al (2010)	6/8	Unclear whether TPB constructs were measured
Taylor & Kuo (2020)	6/8	Did not identify or address confounding factors.
Tomczyk et al (2020)	8/8	All criteria met.
Wang et al (2024)	6/8	Did not identify or address confounding factors.
Westerhof et al (2008)	8/8	All criteria met.
Widyatmiko & Surjaningrum (2022)	4/8	Did not clearly describe participants, did not measure TPB constructs validly, and did not identify or address confounding factors.
Yee & Caballos (2023)	6/8	Did not identify or address confounding factors.
Yee & Ryan (2022)	8/8	All criteria met.
Zorrilla et al (2019)	8/8	All criteria met.

Meta-Analyses

Two multi-level multivariate meta-analyses using random-effects models examined the relationship between TPB constructs and mental health help-seeking intentions and behaviours. Table 4 summarises the pooled effects across both intentions and behaviours. The test of moderators was significant for both models, indicating that the TPB constructs collectively explained a significant amount of variability in help-seeking intentions ($QM(3) = 68.21$, $p < 0.001$) and behaviours ($QM(3) = 22.58$, $p < 0.001$).

Table 4

Multi-level Meta-analysis of TPB Constructs and Help-Seeking Intentions and Behaviours

Outcomes	TPB Construct	*k*	*β*	SE	*p*	95% CI	τ^2
Intentions	Attitudes	36	0.245	0.035	< .001	[0.177, 0.312]	0.033
	Subjective norms	36	0.170	0.029	< .001	[0.114, 0.227]	0.022
	PBC	36	0.150	0.027	< .001	[0.095, 0.206]	0.022
Behaviours	Attitudes	4	0.216	0.048	< .001	[0.123, 0.309]	0.001
	Subjective norms	4	0.038	0.031	0.217	[-0.022, 0.099]	0.003
	PBC	4	0.045	0.118	0.705	[-0.185, 0.275]	0.042

Intention

All three TPB constructs were significantly associated with help-seeking intentions. Attitudes demonstrated the strongest association ($\beta = 0.245$, $p < 0.001$), followed by subjective norms ($\beta = 0.170$, $p < 0.001$), then PBC ($\beta = 0.150$, $p < 0.001$). The magnitude of construct-level between-study variance was only moderate ($\tau^2 = .022–.033$), despite high heterogeneity in the observed effects ($I^2 = 84.3\%$). Forest plots illustrating individual study effect sizes and pooled estimates for each construct are presented in Figure 2.

Behaviours

In contrast, only attitudes ($\beta = 0.216$; $p = < .001$) were significantly associated with help-seeking behaviours, while subjective norms ($\beta = 0.038$, $p = 0.217$) and PBC ($\beta = 0.045$, $p = 0.705$) did not reach significance. The magnitude of construct-level between-study variance was only small to moderate ($\tau^2 = .001–.042$), despite moderate-to-high heterogeneity in the observed effects ($I^2 = 61.2\%$). Forest plots illustrating individual study effect sizes and pooled estimates for each construct are presented in Figure 3.

Figure 2

Forest Plots of Associations Between TPB Constructs and Help-seeking Intentions

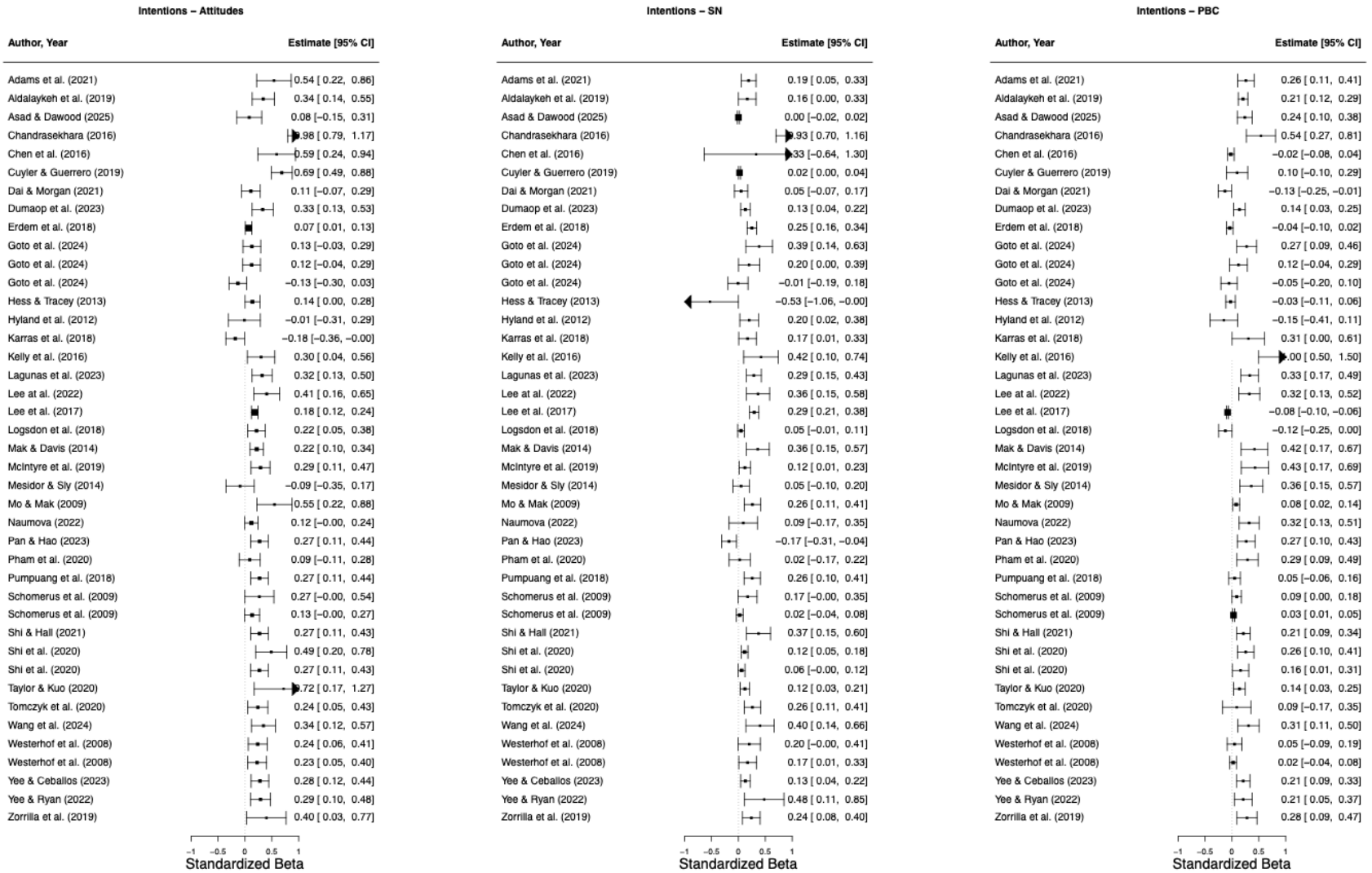
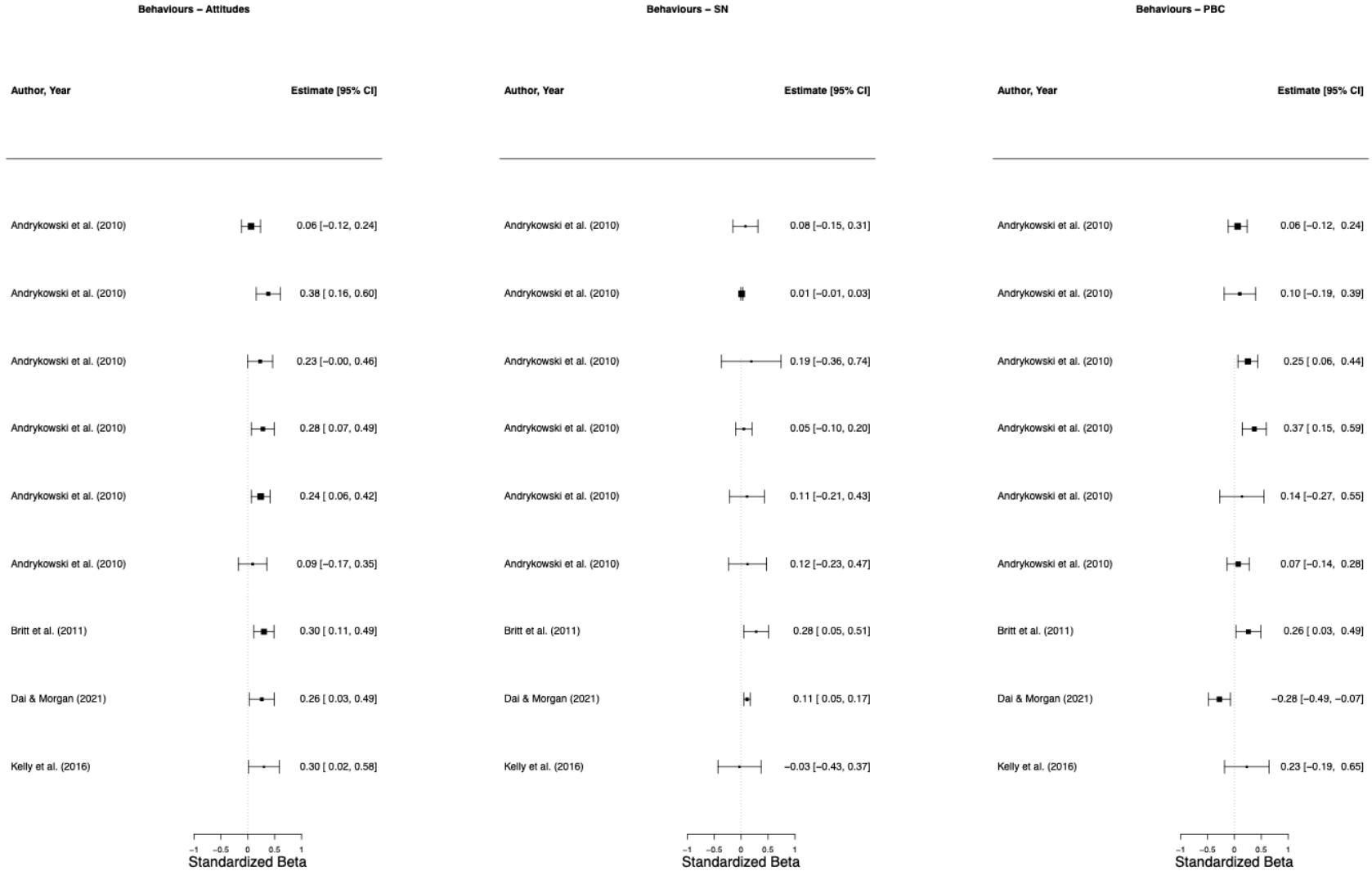


Figure 3

Forest Plots of Associations Between TPB Constructs and Help-seeking Behaviours



Population Subgroup Analysis

Three univariate mixed-effects meta-regression models were conducted to examine whether the strength of the association between the TPB constructs and help-seeking intentions differed between student and general adult populations. All other populations (e.g., military personnel, older adults, etc.) were excluded due to the limited number of studies in each group. One study that identified participants only as "young adults" was excluded to avoid conceptual overlap between student and general adult populations (Zorrilla et al., 2019).

In each model, the population group was included as a moderator (coded 0 = students, 1 = adults), with students as the reference category. The population group did not significantly moderate attitudes ($QM(1) = 0.54$, $p = 0.463$), subjective norms ($QM(1) = 0.02$, $p = 0.877$) nor PBC ($QM(1) = 0.03$, $p = 0.863$). The magnitude of construct level between-study variance was only moderate ($\tau^2 = .021 – .028$) despite high heterogeneity across models ($I^2 = 78.78\% – 90.06\%$).

Region Subgroup Analyses

Three univariate multilevel mixed-effects meta-regression models were conducted to examine whether the strength of the associations between TPB constructs and intentions varied across geographic regions. The Middle East was excluded from the analysis due to a limited number of studies ($k = 1$).

In each model, region was included as a moderator, with Asia as the reference category. As shown in Table 5, region significantly moderated the association between PBC and intentions ($QM(3) = 16.59$, $p < 0.001$), but not attitudes, ($QM(3) = 5.85$, $p = 0.119$), or subjective norms, ($QM(3) = 1.04$, $p = 0.792$). Following the Holm-Bonferroni correction, the omnibus effect for PBC remained statistically significant. Although the association was weaker in Europe than in Asia ($\Delta\beta = -0.184$, $p = 0.045$), the omnibus moderator test for attitudes was not significant and therefore this comparison should be interpreted cautiously. The study region accounted for

10.15% and 29.03% of the residual heterogeneity in attitudes and PBC, respectively. The magnitude of construct level between-study variance was only small-to-moderate (τ^2 = .015 – .032) despite high heterogeneity in the observed effects across all models (I^2 = 81.27% – 90.63%).

Table 5

TPB Constructs Moderated by Region

TPB Construct	Region	*β*	*SE*	*z*	*p*	*95% CI*	τ^2
Attitudes	Asia (ref)	0.344	0.058	5.98	< .001	[0.231, 0.456]	0.032
	ΔAustralia	+0.018	0.139	0.126	0.899	[-0.255, 0.290]	
	ΔEurope	-0.184	0.092	-2.01	0.045	[-0.363, -0.004]	
	ΔNorth America	-0.141	0.078	-1.82	0.069	[-0.293, 0.011]	
Subjective norms	Asia (ref)	0.209	0.049	4.25	< .001	[0.113, 0.305]	0.025
	ΔAustralia	+0.003	0.117	0.02	0.982	[-0.226, 0.232]	
	ΔEurope	-0.038	0.080	-0.48	0.633	[-0.195, 0.118]	
	ΔNorth America	-0.065	0.067	-0.96	0.338	[-0.197, 0.068]	
PBC	Asia (ref)	0.229	0.041	5.59	< .001	[0.149, 0.309]	0.015
	ΔAustralia	+0.190	0.113	1.68	0.092	[-0.031, 0.410]	
	ΔEurope	-0.180	0.065	-2.78	0.005	[-0.306, -0.053]	
	ΔNorth America	-0.134	0.055	-2.45	0.014	[-0.241, -0.027]	

Note. Δ = difference in effect between Asia and the region.

Moderation Analysis by Publication Year

Three univariate multilevel mixed-effects meta-regression models were conducted to examine whether publication year moderated the strength of the associations between TPB constructs and help-seeking intentions. Publication year significantly moderated PBC (QM(1) = 4.58, p = 0.032), but not attitudes (QM(1) = 0.05, p = 0.822), or subjective norms (QM(1) = 0.19, p = 0.660). However, this effect did not remain statistically significant.

As shown by Table 6, the association between PBC and intentions increased slightly over time ($\Delta\beta$ = 0.010, p = 0.032), although this finding should be interpreted cautiously. The magnitude of construct level between-study variance was only small-to-moderate (τ^2= .017 – .036) despite high heterogeneity in the observed effects (I^2 = 83.97% – 91.04%).

Table 6

TPB Constructs Moderated by Publication Year

Construct	$\Delta\beta$	*SE*	*z*	*p*	*95% CI*	τ^2
Attitudes	-0.002	0.007	-0.225	0.822	[-0.016, 0.012]	0.036
Subjective norms	-0.003	0.006	-0.440	0.660	[-0.013, 0.009]	0.021
PBC	0.010	0.005	2.140	0.032	[0.001, 0.020]	0.017

Note. Values reflect the estimated change in the strength of the association between TPB constructs and intentions per one-year increase in publication year.

Moderation Analysis by Study Quality

Three univariate multilevel meta-regressions were conducted with the JBI quality score as a continuous moderator to examine whether study quality influenced the pooled effects. Results indicated that study quality did not significantly moderate the strength of the association between attitudes (QM(1) = 0.46, p = 0.500), subjective norms (QM(1) = 0.05, p = 0.817), or PBC (QM(1) = 0.02, p = 0.898). Furthermore, the magnitude of construct level between-study variance was small-to-moderate (τ^2= .021 – .036) despite high heterogeneity in the observed effects (I^2 = 83.58% – 92.11%).

Moderation Analysis by Help-seeking Source

Three univariate multilevel meta-regressions were conducted to explore whether the help-seeking source (e.g., formal or informal) moderated the strength of the association between TPB constructs and intentions. The results indicated that the help-seeking source did not significantly moderate the relationship between attitudes (QM(1) = 0.05, p = 0.502),

subjective norms (*QM*(1) = 1.70, *p* = 0.193), or PBC (*QM*(1) = 0.03, *p* = 0.602). The magnitude of construct level between-study variance was small-to-moderate (τ^2 = .021 – .036) despite high heterogeneity in the observed effects across all models (I^2 = 83.87% – 92.59%).

Moderation Analysis by Mental Health Difficulty

Three univariate multilevel meta-regressions were conducted to test whether the type of mental health difficulty moderated the strength of the association between TPB constructs and intentions. The types of mental health difficulties were grouped into a binary variable, either general/unspecified or specified (i.e., depression, anxiety, substance misuse, etc.), given the small number of studies examining specific difficulties. The results indicated that the type of difficulty did not significantly moderate the relationship between attitudes (*QM*(1) = 0.07, *p* = 0.390), subjective norms (*QM*(1) = 0.09, p = 0.767), or PBC (*QM*(1) = 0.07, *p* = 0.794). The magnitude of construct level between-study variance was small-to-moderate (τ^2 = .022 – .035) despite high heterogeneity in the observed effects across all models (I^2 = 83.6% – 92.41%).

Sensitivity Analyses of Aggregating Within-Study Effects

Three univariate multilevel mixed-effects meta-regression models were conducted to examine whether within-study aggregation of effect sizes moderated the strength of the association between TPB constructs and intentions. Only a small number of studies required within-study aggregation: five for attitudes, seven for subjective norms, and four for PBC.

As shown in Table 7, the strength of the association between attitudes and intentions was significantly moderated by aggregated within-study effects (*QM*(1) = 5.07, *p* = 0.024). However, this effect did not remain statistically significant following the Holm-Bonferroni correction. The magnitude of construct level between-study variance was small-to-moderate (τ^2 = .021 – .030) despite high heterogeneity in the observed effects across all models (I^2 = 80.45% – 92.41%).

Table 7

TPB Constructs Moderated by Within-Study Effect Aggregation

Construct	*Δβ*	*SE*	*z*	*p*	95% CI	τ^2
Attitudes	-0.203	0.090	-2.25	0.024	[-0.380, -0.026]	0.030
Subjective norms	-0.067	0.068	-0.98	0.326	[-0.200, 0.066]	0.021
PBC	-0.091	0.086	-1.06	0.290	[-0.257, 0.077]	0.021

To assess the impact of within-study aggregation on the pooled effects for attitudes, the main multilevel multivariate meta-analysis of intentions was repeated, excluding all aggregated effects. As shown in Table 8, the pooled *β* estimate increased slightly from 0.245 to 0.284, a difference of 0.039. The inconsistency (I^2) increased by 2.45%, while the construct-level τ^2 increased marginally from 0.033 to 0.038. This suggests that aggregating within-study effects had a minimal impact on the pooled effects for the attitudes construct.

Table 8

Comparing Models with and Without Aggregated Within-Study Effects

Attitudes	*k*	*β*	*SE*	*p*	95% CI	τ^2
Including Aggregated Effects	36	0.245	0.035	< .001	[0.177, 0.312]	0.033
Excluding Aggregated Effects	31	0.284	0.042	< .001	[0.202, 0.366]	0.038

Publication Bias

Publication bias analyses were performed only for studies with intentions models, given the limited number of studies examining behaviour. Contour-enhanced funnel plots suggested asymmetries for all TPB constructs (see Figure 2). Egger tests revealed evidence of significant small study effects for attitudes ($z = 2.68$, $p = 0.007$), subjective norms ($z = 2.74$, $p = 0.006$), and PBC ($z = 6.07$, $p < 0.001$). The PET slopes were significant for all constructs; therefore, PEESE-adjusted pooled effects were calculated. All adjusted pooled effects were smaller than

their unadjusted estimates. After adjustment, the association between PBC and intentions was no longer statistically significant (β = 0.04, p = .130), suggesting the small study bias resulted in a substantially overestimated association with intentions. Small-study bias accounted for 14.49%, 34.01%, and 60.45% of the residual heterogeneity in attitudes, subjective norms, and PBC, respectively. The magnitude of construct level between-study variance was only small-to-moderate (τ^2 = .008 – .030) despite high inconsistency in the observed effects across all models (I^2 = 80.37% – 88.19%). Table 9 compares the main and adjusted pooled effects.

Figure 2

Contour-enhanced Funnel Plots for TPB Constructs Examining Intentions

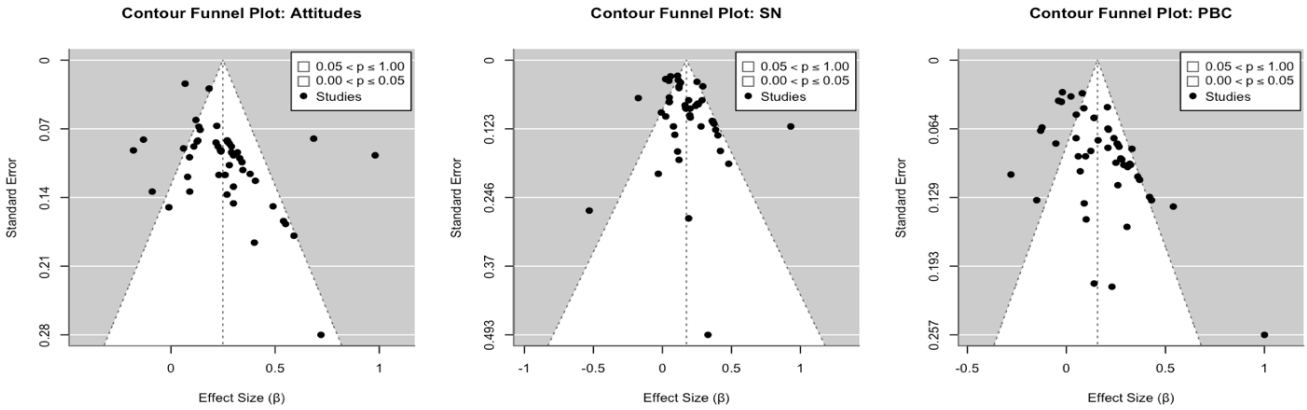


Table 9

Comparing Unadjusted and Adjusted Pooled Effects of TPB Constructs on Intentions

Construct	*Model*	*β*	*SE*	*p*	*95% CI*
Attitudes	Unadjusted	0.245	0.035	< .001	[0.177, 0.312]
	Adjusted	0.150	0.048	< .001	[0.064, 0.252]
Subjective norms	Unadjusted	0.170	0.029	< .001	[0.114, 0.227]
	Adjusted	0.162	0.029	< .001	[0.105, 0.218]
PBC	Unadjusted	0.150	0.027	< .001	[0.095, 0.206]
	Adjusted	0.040	0.026	0.130	[-0.012, 0.091]

Discussion

This systematic review and meta-analysis aimed to quantify the strength of the associations between TPB constructs and adult mental health help-seeking intentions and behaviours. Forty-three studies applied the TPB to adult mental health help-seeking intentions and/or behaviours. Across the 38 studies eligible for the meta-analysis, all three TPB constructs were significantly associated with help-seeking intentions, whereas only attitudes were significantly associated with help-seeking behaviours.

Subgroup and moderator analyses indicated that these findings were generally stable across student and general adult populations, publication year, study quality, help-seeking source, and type of mental health difficulty. Following correction for multiple moderator analyses, study region was the only characteristic that significantly moderated the association between TPB constructs and help-seeking intentions, with PBC demonstrating greater variability across regions. Perceived behavioural control was also sensitive to small-study bias, with bias-adjusted estimates indicating a weaker and non-significant association with intentions. However, adjusted results may be overly conservative due to high between-study heterogeneity and should be interpreted with caution.

Further moderator analyses found that study quality, help-seeking source (formal vs. informal), and type of difficulty (general vs. specific), did not mediate the relationships between TPB constructs and help-seeking intentions, nor explain any residual heterogeneity. Together, these findings indicate that attitudes are central to TPB models of help-seeking intentions, while the evidence for subjective norms and PBC is weaker and less consistent.

Attitudes

Attitudes toward help-seeking demonstrated the strongest association with intentions and the only significant association with behaviours. This suggests that individual beliefs about help-seeking play an essential role in the help-seeking process. This is consistent with TPB

applications in other health domains and previous reviews of help-seeking determinants (McEachan et al., 2011; Magaard et al., 2017; Schnyder et al., 2017).

The strength of attitudes may partly reflect how the construct has been measured within the help-seeking literature. For example, widely used measures such as the Attitudes Toward Seeking Professional Psychological Help (ATSPPHS; Fischer & Turner, 1970), its short form version (ATSPPHS-SF; Fisher & Farina, 1995), and the Inventory of Attitudes Toward Seeking Mental Health Services (IASMHS; Mackenzie et al., 2004) have been shown to demonstrate large construct-irrelevant variance, measuring factors beyond attitudinal beliefs, including mental health literacy, self-disclosure, avoidance coping, and self-concept clarity (Hammer et al., 2023). Such a broad operationalisation may result in a construct that integrates several important components of help-seeking, which may help explain why attitudes consistently demonstrate the strongest association with help-seeking intentions.

Subjective Norms

Subjective norms demonstrated a weaker but statistically significant association with help-seeking intentions. Although subjective norms were not significantly associated with actual help-seeking behaviour, the small number of studies examining behavioural outcomes (k = 4) may have limited the statistical power to detect small-to-moderate effects and, therefore, the findings should be interpreted with caution. However, the results suggest that while perceived social pressure contributes to the formation of intentions, it may have less of an influence on actual help-seeking behaviours, where personal attitudes and beliefs may become more relevant. This pattern is consistent with findings from two separate systemic reviews examining stigma within mental health help-seeking, which indicate that some forms of stigma show small associations with intentions, but demonstrate weak and inconsistent associations with behaviours (Schnyder et al., 2017; Clement et al., 2015).

Furthermore, while mental health stigma does not map directly onto the subjective norms construct, many studies within this review operationalized subjective norms using

stigma-related measures (i.e., the IASMHS indifference to stigma scale). As with attitudes, there is variation among the measurement of subjective norms, for example, the separate measurement of injunctive and descriptive norms. These between-study inconsistencies in operationalization may also help explain the high levels of heterogeneity found in this meta-analysis.

Perceived Behavioural Control

Perceived behavioural control demonstrated the weakest association with intentions and was not significantly associated with behaviours. This contrasts with findings from a previous meta-analysis of the TPB model applied to health-related behaviours, in which PBC demonstrated a positive association with intentions (McEachan et al., 2011). This may reflect differences and variability in how PBC was operationalised. For example, some studies measured internal factors (e.g., self-efficacy; Shi et al., 2020), while others examined external factors (e.g., ease of access; Lagunas et al., 2023). Furthermore, PBC demonstrated sensitivity to regional moderation, suggesting that the role of PBC may differ between cultures. More specifically, weaker associations between PBC and help-seeking intentions were observed in European and North American studies compared with Asian studies, which may be due to regional or cultural differences in the perceived intrapersonal (i.e., self-efficacy) and structural barriers. Although publication year was associated with a small increase in the strength of the association between PBC and help-seeking intentions, this finding did not remain statistically significant following correction for multiple moderator analyses and should therefore be interpreted cautiously. These findings suggest that regional context may be particularly important for understanding variation in PBC.

Limitations

All intention models demonstrated high heterogeneity, with I^2 values ranging from 80.45% to 92.59%, suggesting substantial variability across studies. Moderator analyses revealed that study region and publication bias explained some of the residual heterogeneity.

While publication year and aggregation of within-study effects also explained small proportions of heterogeneity, these effects did not remain statistically significant following correction for multiple analyses. Furthermore, variation among construct measurements likely contributed further to between-study heterogeneity. Study quality, help-seeking source, population, and type of mental health difficulty did not account for any residual heterogeneity (R^2 = 0%). The overall behaviour model also showed moderate-to-high inconsistency (I^2 = 61.2%), although this model only includes four studies, which limited further analysis and interpretation. Despite high heterogeneity, the τ^2 values within the intention models ranged from .008 to .036, and .001 to .042 within the overall behaviour model, indicating that while inconsistencies between studies were present, relatively similar effects were found across studies.

Sensitivity analyses indicated that excluding studies requiring within-study aggregation resulted in minimal changes to the pooled estimates or measures of heterogeneity, suggesting that the primary findings were robust to this methodological decision. Additionally, publication bias analyses found significant small-study effects, suggesting effects may be inflated, potentially due to the underrepresentation of null findings in the literature. Moreover, the overrepresentation of students and Western samples, as well as the inclusion of only English-language studies, limits the generalisability of the findings as factors influencing mental health help-seeking are culture and context specific.

Finally, TPB constructs are often highly correlated, and such intercorrelations were accounted for in the primary multivariate multilevel models. However, the subgroup and moderator analyses examined constructs using separate univariate models. While these models did not share variance between independent variables, it is important to note that the individual constructs should not be compared to each other (e.g., one cannot reliably compare the strength of TPB constructs within European studies, as these findings are drawn from three separate univariate models).

Future Research and Clinical Implications

Future research should aim to improve the measurement of TPB constructs within mental health help-seeking constructs to reduce heterogeneity and facilitate reliable cultural and regional adaptations. Longitudinal and experimental designs would improve understanding of the intention–action gap and determine whether interventions targeting attitudes, subjective norms, and PBC promote behaviour change. Furthermore, the importance of attitudes suggests that effective clinical and service-level interventions for improving help-seeking should target individual beliefs about mental healthcare (e.g., perceived usefulness, acceptability, safety), rather than assuming that improving access (i.e., PBC) alone will increase engagement. Finally, given the observed regional variation in PBC, systems should also aim to address structural barriers to support using needs-led and culturally informed approaches.

Conclusion

This systematic review and meta-analysis demonstrated that the TPB offers a useful, though inconsistent, framework for understanding mental health help-seeking. The primary meta-analytic model of intentions showed that, across studies, attitudes demonstrated the strongest and most consistent association with help-seeking intentions, followed by subjective norms and then PBC. Attitudes were the only TPB construct associated with help-seeking behaviours. Substantial inconsistency highlighted the effect of variation within construct measurement and contextual factors. Overall, the findings suggest that while the TPB captures important psychological constructs of help-seeking, its explanatory utility may be influenced by construct operationalisation and broader contextual factors, particularly regional differences. However, the existing literature focused predominantly on help-seeking intentions, with only five studies examining actual help-seeking behaviour. The findings from this review suggest that interventions should focus on improving beliefs about seeking mental healthcare while also addressing structural barriers and cultural differences. Future longitudinal and experimental research is needed to examine the translation of help-seeking intentions into actions.

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Chapter 3: Bridging Chapter

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Bridging Chapter

The systematic review and meta-analysis demonstrated that the Theory of Planned Behaviour (TPB) provides a useful framework for understanding adult mental health help-seeking intentions. Across a range of populations, all three TPB constructs (attitudes, subjective norms, and perceived behavioural control [PBC]), were associated with help-seeking intentions. However, the substantial heterogeneity observed between studies suggests that the influence of TPB constructs may vary depending on the population and context being investigated. This finding highlights the need to examine the model within populations that may experience unique contextual influences on help-seeking intentions.

The empirical study in Chapter 4 applies the TPB to perinatal mental health (PMH) help-seeking among UK military spouses and partners. The perinatal period is recognised as a time of increased vulnerability to mental health difficulties due to the interaction of biological, psychological, and social changes associated with pregnancy and early parenthood. For example, hormonal changes, sleep disruption, and increased caregiving demands may all contribute to psychological distress within the perinatal period (O'Hara & Wisner, 2014).

For military spouses and partners, these difficulties may be compounded by military-related challenges, such as deployments, relocations, disrupted social support, and concerns about the possible consequences of seeking help (Nguyen et al., 2023). Military spouses and partners experience higher rates of PMH difficulties than the general population, with up to 50.7% experiencing perinatal depression (Klaman & Turner, 2016; Howard et al., 2018). Therefore, the following empirical study complements the broader findings of the systematic review and meta-analysis by examining how attitudes, subjective norms, and PBC influence help-seeking intentions within a population experiencing elevated rates of PMH difficulties and compounding barriers to help-seeking.

Chapter 4: Empirical Study

The Theory of Planned Behavior and Perinatal Mental Health Help-Seeking Among UK Military Spouses and Partners

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The Theory of Planned Behavior and Perinatal Mental Health Help-Seeking Among UK Military Spouses and Partners

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Abstract

Perinatal mental health (PMH) difficulties are common among military spouses and partners and are associated with increased risk of poor maternal and infant outcomes. Despite elevated needs, help-seeking within this group remains low, and few quantitative studies have examined the factors influencing help-seeking. The current study applied the Theory of Planned Behavior (TPB) to test the extent to which TPB constructs explained variance in help-seeking intentions among UK military spouses and partners and explored whether social support, clinical symptom severity, military relocations, and deployments explained additional variance beyond the TPB model. A sample of 361 UK military spouses and partners who were either pregnant or within 24 months postpartum completed a cross-sectional, online survey. Hierarchical regression tested the extent to which TPB constructs and contextual factors (e.g., social support, number of relocations and deployments, and clinical symptom severity) explain formal perinatal mental health (PMH) help-seeking intentions. Greater positive attitudes toward professional help-seeking were associated with stronger help-seeking intentions ($\beta = .198$, $p < .001$), while subjective norms, perceived behavioral control, social support, military relocations and deployments, and clinical symptom severity were not significantly associated with intentions. Overall, the TPB constructs only explained 3.5% of the variance. Findings suggest that help-seeking among military spouses and partners is likely a complex, multi-factorial process not fully captured by TPB constructs alone, highlighting the need for broader conceptualizations and integrated interventions.

Keywords: military spouses, perinatal mental health, help-seeking, Theory of Planned Behavior

Public significance statement: Pregnancy and early parenthood can be especially challenging for military spouses and partners, who often feel isolated and worried about seeking help. This study found that people are more likely to consider support if they believe it will help them, but help-seeking is influenced by many factors. Improving how mental health services support military families may help more parents access care when they need it.

The Theory of Planned Behavior and Perinatal Mental Health Help-Seeking Among UK Military Spouses and Partners

Perinatal mental health (PMH) difficulties affect up to 27% of mothers (Howard et al., 2018) and include depression, anxiety, psychosis, and post-traumatic stress disorder (PTSD). Although definitions of the perinatal period vary, the current study adopts the National Health Service (NHS) Mental Health Implementation Plan definition, which defines it as the period between conception and 24 months post-birth (NHS England, 2019).

Untreated PMH problems are associated with a wide range of adverse maternal and infant outcomes, including poorer infant physical health, obstetric complications, and potential developmental problems (Accortt et al., 2015; Grigoriadis et al., 2018; Talge et al., 2007). While these associations are not necessarily causal and may be bidirectional, the risks highlight the importance of early identification and intervention of PMH difficulties (Gavin et al., 2015). Furthermore, PMH problems are also associated with an increased risk of maternal suicide (Knight et al., 2023). Despite this, only 30.8% of mothers with postnatal depression (PND) are identified, 15.8% receive treatment, 6.3% receive adequate treatment, and 3.2% achieve clinical recovery (Cox et al., 2016).

Military Spouses and Partners

Military spouses and partners have been found to be at an increased risk of developing mental health problems. For example, this group is nearly twice as likely to experience a major depressive episode compared to the general population, a rate similar to that found in post-combat soldiers (Verdeli et al., 2011). Similarly, up to 50.7% of military spouses and partners who become pregnant may experience perinatal depression, a much higher rate than found in the general population (Klaman & Turner, 2016; Howard et al., 2018). Furthermore, infants born to military-affiliated mothers with mental health difficulties are at elevated risk of being born preterm, having a low birth weight, and having a birth defect compared to those born to military-affiliated mothers without mental health difficulties (Bukowinski et al, 2025). These findings

indicate that military spouses and partners are vulnerable to developing mental health difficulties, which result in poorer outcomes for themselves and their babies. Moreover, military spouses and partners with PND are 14.5 times more likely to develop any form of suicidality compared to the general population (Hu et al., 2014).

The unique challenges of military family life, such as deployment and relocation, may account for these increased risks and poorer outcomes. A deployment refers to a period of time during which the serving member is required to live away from the family home for extended periods, while a relocation refers to a mandatory transfer of the serving member and their family to a new location. Deployment, especially during pregnancy, has been identified as a unique risk factor for PND (Levine et al., 2015; Robrecht et al., 2008; Spooner et al., 2012). Frequent relocation and deployment can distance spouses and partners from each other, as well as from their family and friends, leading to isolation and weakened social support (Skomorovsky, 2014). A scoping review of US military spouses also identified deployments, low social and emotional support and family-related stressors as risk factors for poor PMH (Godier-McBard et al., 2019). This suggests that deployments and relocations may negatively impact the well-being of military spouses and partners, as well as the availability of social support, leading to poorer outcomes.

PMH Help-seeking

Within the general public, mothers often report reluctance to seek help for mental health difficulties due to embarrassment, fear of judgment, or concerns about losing parental rights (Boots Family Trust, 2013). Military spouses and partners report additional concerns, including the beliefs that professionals will not understand military life and that seeking help would harm the serving person's career (Eaton et al., 2008; Nguyen et al., 2023). One study found that logistic factors were the most frequently cited barrier to mental healthcare by military spouses and partners, followed by negative beliefs about mental healthcare, fear of social or occupational consequences, and internalized stigma (Schvey et al., 2021). Furthermore, civilian military spouses and partners are often expected to perform a role characterized by resilience

and self-reliance to prioritize the serving person's career (Foreman, 2025). These cultural expectations may discourage mental health help-seeking by increasing the perceived social pressure to cope independently (Long, 2022).

Given their elevated risk and additional barriers, it is important to better understand the formation of help-seeking intentions and behaviors of this group to inform strategies for earlier identification of mothers who may be struggling and the subsequent prevention of poor outcomes. Additionally, understanding factors associated with help-seeking intentions within this group may help identify opportunities for intervention and inform the development of accessible and acceptable PMH services.

Theory of Planned Behavior

The Theory of Planned Behavior (TPB; Ajzen, 1991) is an explanatory model of behavior which proposes that behavior is directly determined by intentions, which are influenced by an individual's (a) attitudes toward the behavior, (b) perceived subjective norms, defined as the social pressure to perform or not perform the behavior, and (c) perceived behavioral control (PBC), or perceived ability to perform the behavior.

The TPB has been widely applied to mental health and help-seeking contexts (Mo & Mak, 2009). A recent scoping review of the literature on the TPB applied to mental health help-seeking in adults found that attitudes toward help-seeking and PBC are consistently associated with mental health help-seeking intentions. While the review found mixed evidence for the association between subjective norms and intentions in some populations, stigma and fear of social judgement are both commonly reported reasons for help-seeking reluctance among both civilian perinatal and military-affiliated populations (Dennis & Chung-Lee, 2006; Nguyen et al., 2023).

The TPB model also offers a conceptually concise framework for examining both internal and external factors contributing to the formation of help-seeking intentions, whereas other models of behavior tend to focus on internal processes such as emotional readiness and

recognition of need. The incorporation of external factors allows for the consideration of structural barriers that influence the help-seeking decision-making process. Furthermore, TPB emphasizes the importance of capturing the most salient beliefs specific to the population and context being investigated (Ajzen, 1991). This means that the TPB model is adaptable and allows for the tailoring of construct measurement to suit various study aims.

Contextualizing the TPB Model for Military Spouses and Partners

The TPB emphasizes that background and contextual factors influence the three core constructs (attitudes, subjective norms, and PBC; Ajzen, 1991). Therefore, studies applying the model to mental health help-seeking often incorporate additional and contextual variables to further understand intentions and behaviors (Adams et al., 2022). This study will examine the influence of deployment and relocation frequency, perceived social support, and clinical symptom severity on help-seeking intentions through attitudes, subjective norms, and PBC.

Deployments and relocations have been found to negatively affect the PMH of military spouses and partners, as well as the availability of social support (Spooner et al., 2012; Skomorovsky, 2014). Furthermore, weaker social support has been found to negatively affect PMH help-seeking (Nguyen et al., 2023; Thomas et al., 2014). However, the literature is mixed on the effect of symptom severity on help-seeking, with greater severity either increasing urgency or decreasing engagement through cognitive and emotional barriers (Daehn et al., 2022; Maguire et al., 2023). It is also possible that the effect of symptom severity on help-seeking may vary among presenting difficulties due to differences in perceived stigma and support (e.g., depression versus perinatal psychosis; Hazell et al., 2022).

Current study

There is an urgent need for further research into military spouse and partner PMH help-seeking, given the increased risks of developing PMH problems and experiencing suicidality, and the greater reluctance to seek help. The curren study aims to understand how both individual and military-related factors may influence PMH help-seeking. Therefore, the TPB

model was deemed most appropriate for these research aims as it captures individual attitudes, stigma, and military-related barriers to help-seeking. This study tested the extent to which the TPB model explained variance in PMH help-seeking intentions among military spouses and partners in the UK. Furthermore, the study explores whether social support, symptom severity, and relocations and deployments explain PMH help-seeking intentions, beyond the TPB. The findings will provide insight into factors influencing PMH help-seeking intentions and inform efforts to improve support for military spouses and partners.

Research Questions

1. What are the self-reported help-seeking histories and preferences of military spouses and partners?
2. To what extent do the TPB constructs (i.e., attitudes, subjective norms, and PBC) explain variance in PMH help-seeking intentions among military spouses and partners?
3. Do contextual factors (i.e., social support, clinical symptom severity, and the number of relocations and deployments) explain additional variance in PMH help-seeking intentions beyond TPB constructs?

Methods

Design

A cross-sectional survey design was used. The study design had 18 independent variables; age, ethnicity, education, parity (the number of children excluding any current pregnancies), past PMH difficulties, past help-seeking, attitudes, subjective norms, PBC, perceived social support, number of military relocations and deployments, and clinical measures of depression, anxiety, stress, adjustment difficulties, trauma, and psychotic-like experiences. An a priori G*Power calculation, with a medium effect size ($R^2 = .14$), a power of 80%, and a confidence level of 0.05, determined a minimum required sample size of 159 participants.

Participants

A total of 361 military spouses and partners were included in the sample. The inclusion criteria for this study were as follows: (a) civilian spouses and partners of active British Armed Forces members, (b) over the age of 18, (c) who were pregnant at the time of recruitment and/or had a live birth within the past 24 months. Spouses and partners living or stationed outside of the UK were excluded due to variation in service provision abroad. Co-parents and former partners were not included in the study, as they are not recognized by the Ministry of Defence (MOD) as dependents of the serving person. Additionally, actively serving or veteran spouses and partners were excluded due to their access to MOD services that may differ significantly from NHS provision. Lastly, spouses and partners who had experienced baby loss within the past 24 months and were not currently pregnant did not meet the criteria. The complex and traumatic nature of help-seeking after baby loss was beyond the scope of the current research questions.

Procedure

The study was approved by the University of East Anglia Faculty of Medicine and Health Sciences Ethics Committee. The Ministry of Defence Research and Ethics Committee (MODREC) was also consulted and advised that full MODREC ethical approval was not required. All participants were recruited via social media between January and April 2025. The recruitment advertisement was shared with several military spouse and partner social media groups and pages. A large proportion of participants were likely recruited through Dandelion Military Families, a charity focused on perinatal mental health. After providing informed consent, participants completed an online survey hosted by Jisc Online Surveys (v3; Bristol, UK). The survey was developed for a joint project; therefore, parts of the survey were not relevant to the present study and were excluded from analysis. Upon completion, participants received debriefing information and were invited to enter an optional prize draw to win one of two £20 Amazon vouchers.

Measures

Socio-demographic variables and military factors

The survey collected data on participants' age, ethnicity, education, UK region, perinatal status (i.e., antenatal or postnatal), help-seeking history, previous mental health experiences, deployment history, and relocation history.

Attitudes Toward Help-seeking

The Mental Help Seeking Attitudes Scale (MHSAS) is a 9-item self-report measure designed to assess attitudes toward seeking professional help for mental health problems (Hammer et al., 2018). Participants were asked to use a 7-point semantic differential scale and nine pairs of opposite adjectives (e.g., useful vs useless) to complete the statement “If I had a mental health concern, seeking help from a mental health professional would be”. Higher scores indicated a more positive attitude toward seeking professional help. The MHSAS has demonstrated excellent internal consistency (*a* = 0.92) and good convergent validity (*r* = 0.67; Hammer et al., 2018). Internal consistency in the current sample was excellent (Cronbach’s α = 0.92).

Subjective Norms

Subjective norms were operationalized with the external and disclosure stigma subscales of the City Mental Illness Stigma Scale (MISS; Moore et al., 2017), due to the salience of judgement beliefs among both military and perinatal populations (Ngyuen et al., 2022; Ajzen, 1991). The full scale has demonstrated good internal consistency (*a* = 0.84) and good convergent validity (*r* = 0.84; Moore et al., 2017). Separately, the external stigma and disclosure stigma subscales have both demonstrated good internal consistency (i.e., *a* = 0.86 and 0.85, respectively).

The internalized stigma scale, which includes items such as “I have thoughts of killing myself”, was excluded to avoid unmonitored disclosures of risk. Furthermore, internalized stigma is less aligned with the subjective norms construct, which is specifically interested in perceived pressure from others, rather than the self. The remaining ten items asked participants

to rate their agreement with each statement (e.g., “I worry that if I told a healthcare provider about my psychological problems my baby would be taken away”) on a 4-point Likert scale (1 = Strongly disagree; 4 = Strongly agree). Higher total summed scores indicate greater perceived stigma and subjective norms. Internal consistency in the current sample was excellent (α = 0.92).

Perceived Behavioral Control

Perceived behavioral control was measured with the RAND Military Barriers and Facilitators to Care Item Banks (Acosta et al., 2018) and adapted in consultation with a patient and public involvement (PPI) group to reflect the experiences and beliefs of military spouses, rather than serving personnel. For example, the original item “If I had mental health problems, I would not seek treatment because it would take time away from serving my unit”, was adapted to state, “If I had mental health problems, I would not seek treatment because it would take time away from my children”.

This adaptation was necessary given that several items were not directly applicable to spouses and partners, and no validated measure of barriers and facilitators to care currently exists for this population. Furthermore, existing validated measures of barriers and facilitators to care developed for use in general populations are unlikely to sufficiently capture military-related control-beliefs relevant to spouses and partners. The adaptations were consistent with guidance for measuring TPB constructs, which emphasizes the need to elicit salient beliefs specific to the target population and contexts (Ajzen, 1991).

Participants were asked to rate their agreement with each on a 5-point Likert scale (0 = Not at all; 4 = Very much). The barrier items were reverse-scored and summed with facilitator items to calculate a total PBC score. Higher scores indicated greater PBC. A preliminary validity analysis found good convergent validity with other, less comprehensive measures of barriers (r = 0.74 – 0.76; Acosta, 2018). The facilitators item bank demonstrated moderate-to-low correlations, indicating that facilitators may overlap with barriers but are still a distinct and

separate scale *(r* = 0.50 – 0.56; Acosta, 2018). In the original RAND development study, reliability was examined within an item response theory framework, demonstrating excellent marginal reliability for the barriers scale (*MR* = .95) and acceptable reliability for the facilitators scale (*MR* = .76). In this study, internal consistency was acceptable (*α* = .79).

Help-seeking Intentions

Intentions were measured using the General Help-Seeking Questionnaire (GHSQ; Wilson et al., 2005), a 10-item measure assessing help-seeking intentions for personal and emotional problems; and frequently utilized in TPB studies. The measure asked participants to rate how likely they were to seek help from various sources during the perinatal period (e.g., partner, friend, professional) on a 7-point Likert scale (1 = Extremely Unlikely, 7 = Extremely Likely). However, only the Intention to Seek Professional Help (ISPH) dimension was included in the regression model to ensure adherence with Ajzen's principle of correspondence (i.e., intentions to seek professional help aligned with the independent variable measure of attitudes toward professional help-seeking).

A participant was considered likely to seek help from a source if they gave a rating of 5 or higher, as four was considered a neutral score. Ratings for each formal source were averaged to calculate a total formal intention score. Higher scores indicate greater intent to seek help. The 10-item GHSQ has demonstrated good internal consistency (a = 0.83 – 0.85; Wilson et al., 2007). However, the ISPH dimension has shown mixed internal consistency across studies (a = 0.52 – 0.79; Hammer & Spiker, 2018; Zou et al., 2025). In this study, the internal consistency of the ISPH dimension was acceptable (*α* = .70).

Social Support

Social support was measured with the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988), a 12-item self-report measure that assesses perceived social support from friends, family and a significant other. Participants are asked to rate their agreement with each statement (e.g., "My family really tries to help me.") on a 7-point Likert

scale (1 = Very strongly disagree; 7 = Very strongly agree). Higher scores indicate a higher perceived level of social support. The MSPSS has demonstrated excellent internal consistency within a perinatal sample (*a* = 0.92; Zimet et al., 1990). In this study, internal consistency was also excellent (*α* = .93).

Depression, Anxiety, and Stress

The Depression, Anxiety, and Stress Scale is a 21-item self-report measure of depression, anxiety, and stress symptom severity (Lovibond & Lovibond, 1995). Participants are asked to rate the extent to which each item (e.g., "I felt that I had nothing to look forward to") applied to them over the past week. The measure uses a 4-point Likert scale (0 = Did not apply to me at all; 3 = Applied to me very much or most of the time). Higher scores indicate greater symptom severity for each subscale. The DASS-21 has demonstrated good to excellent internal consistency in a non-clinical sample of both the total score (*a* = 0.88) and of the subscales (Depression: *a* = 0.82, Anxiety: *a* = 0.90, and Stress: *a* = 0.93; Henry and Crawford, 2005). It has also demonstrated excellent internal consistency (*a* = 0.92) within a perinatal sample (Xavier et al., 2016). The subscales demonstrated good to excellent internal consistency in the current sample (Depression: α = 0.93; Anxiety: α = 0.90; Stress: α = 0.86).

Adjustment to Pregnancy and Birth

The Adjustment Disorder New Module – Brief (ADNM–8; Ben-Ezra et al., 2018) is an 8-item measure that assesses symptoms of adjustment disorder according to ICD-11 criteria (Ben-Ezra et al., 2018). In this study, respondents were asked to rate how often each statement applied to their adjustment to becoming pregnant or giving birth during their current perinatal period, using a 4-point Likert scale (1 = Never, 4 = Often). The ADNM-8 has demonstrated excellent convergent validity with the original 20-item measure (*r* = .918) and excellent internal consistency (*a* = 0.91; Ben-Ezra et al., 2018). Internal consistency was excellent within the current sample (*α* = .92).

Psychotic-like Experiences

The Prodromal Questionnaire (PQ–16; Ising et al., 2012) is a 16-item self-report measure of perceptual abnormalities, unusual thoughts, and suspiciousness. This study used the scale to capture information about psychotic-like experiences during the perinatal period. The scale includes both a binary (yes/no) endorsement of symptoms (e.g. “I have seen things that other people apparently can't see.”) and a continuous distress rating for each endorsed item (No distress = 0; Severe distress = 3). In the validation study, the measure demonstrated acceptable internal consistency (*a* = 0.77) and distinguished diagnosis of at-risk mental state (ARMS) from no ARMS diagnosis with high sensitivity (87%) and specificity (87%; Ising et al., 2012). In this study, internal consistency within the total scale (*a* = 0.86) and both subscales was good (Symptoms: α = 0.80; Distress: α = 0.84).

Item 16 (“I feel that parts of my body have changed in some way, or that parts of my body are working differently than before”) was excluded due to conceptual overlap with the perinatal experience. A total of ≥6 on the remaining symptoms endorcement subscale was used as the cut-off score to indicate possible psychosis-risk (Ising et al., 2012).

Post-traumatic Stress Disorder (PTSD) Symptoms

The PTSD Checklist – Short Form (PCL–6; Lang & Stein, 2005) was used to assess symptoms of PTSD (e.g., “Difficulty concentrating”) over the last month, using a 5-point Likert scale (1 = Not at all; 5 = Extremely). Higher scores indicate the presence of more PTSD symptoms. A validation study found acceptable internal consistency (*a* = 0.78; Lang et al., 2012). In this study internal consistency was excellent (α = .92).

Analysis Plan

The data was cleaned and prepared for analysis using SPSS. Responses were excluded if they were ineligible based on location (*n* = 3), incomplete (*n* = 1) or showed evidence of bot activity, such as repetitive response patterns (*n* = 1). There were no responses which were completed unusually quickly. For responses missing only one item within a multi-item scale, the individual’s mean score on the completed items within that scale was substituted

for the missing item (*n* = 16). This method is deemed acceptable when there is a low rate of missing data and there is high correlation between items (Little & Rubin, 2019; Heymans & Twisk, 2022).

Visual inspection of residual plots indicated that assumptions of normality and linearity were met. Multicollinearity was assessed using variance inflation factors (VIFs), with all values below 4 (James et al., 2013). Cook's distance values indicated no influential outliers. Alpha levels were set at .05.

Both ethnicity and education were recoded into binary variables. Ethnicity was coded as White (0) and Black, Asian, Mixed, and Other ethnic backgrounds (1). Education was coded as below degree level (0) and degree level or higher (1).

Descriptive statistics summarise the sample's demographics and the military, clinical, and help-seeking characteristics. A hierarchical regression was conducted to examine the extent to which the TPB model explained variance in formal help-seeking intentions (step 1) and whether the contextual factors explained additional variance beyond the TPB model (step 2). Items 7 and 11 of the PQ-16 were excluded from the regression due to conceptual overlap with the DASS-21, as these items specifically measure mood difficulties associated with at-risk mental states. The aim of this measure was to explore the influence of perinatal psychotic-like experiences on intentions, and therefore, it was deemed appropriate to isolate the items relevant to psychotic-like experiences.

Results

Sample Characteristics

Descriptive analyses were conducted to summarize sample demographics (Table 1), military characteristics (Table 2), clinical characteristics (Table 3) and help-seeking characteristics. Participants ranged in age from 20 to 43 years (*M* = 30.76, *SD* = 4.88). The majority of the sample were White (*n* = 344; 95.29%) and based in England (*n* = 314; 86.98%). Nearly one-quarter of participants (*n* = 82; 22.71%) were pregnant at the time of the survey,

with gestational weeks ranging from 4 to 38 weeks (*M* = 22.27, *SD* = 9.81). A majority of participants (*n* = 312; 86.43%) had given birth within the last 24 months. Parity (i.e., the number of children excluding any current pregnancies) ranged from zero to five. A large proportion of participants had only one child, excluding any current pregnancies (n = 162; 44.88%), while 41.55% (*n* = 150) were currently pregnant with their first baby.

Table 1

Sample Demographics

Characteristic	*n*	%
Age		
20-25	58	16.07
26-30	89	24.65
31-35	146	40.44
36+	68	18.84
Ethnicity		
White	344	95.29
Mixed or multiple	5	1.39
Asian or Asian British	5	1.39
Other ethnic group	5	1.39
Black, Black British, Caribbean, or African	2	0.55
Education		
GCSE or equivalent	35	9.70
A Levels or equivalent	51	14.13
Certificate of Higher Education or equivalent	33	9.14
Foundation degree or equivalent	25	6.93
Bachelor’s degree/PGCE	127	35.18
Master’s degree/Postgraduate	78	21.61
Doctoral degree	8	2.22
Other	4	1.11
Country		
England	314	86.98
Scotland	33	9.14
Wales	10	2.77
Northern Ireland	4	1.11

Military Characteristics

Over half of participants' partners were in the British Army (n = 197; 54.57%). A majority reported at least one military relocation since becoming a military spouse or partner (n = 284, 78.67%). Of those who reported at least one relocation, 68.66% (n = 195) experienced one during a previous or current perinatal period. Similarly, 90.03% (n = 325) of participants reported that their partner had been deployed at least once. Of those who reported at least one deployment, 75.69 (n = 246) experienced one during a previous or current perinatal period.

Table 2

Military Characteristics

Characteristic	*n*	%
Military branch		
Royal Navy	83	22.99
Army	197	54.57
Royal Air Force	81	22.44
Relocations		
Once	71	19.67
Twice	81	22.44
Three times	55	15.24
Four times	34	9.42
Five or more times	43	11.91
Never	77	21.33
Deployments		
Once	51	14.13
Twice	49	13.57
Three times	62	17.17
Four times	29	8.03
Five or more times	134	37.12
Never	36	9.97

Clinical Characteristics

Half of the participants (*n* = 191; 52.91%) had been diagnosed with at least one mental health difficulty since becoming a military spouse/partner. Of the participants with at least one child prior to their current perinatal period, 60.85% (*n* = 115) reported experiencing perinatal mental health difficulties in the past.

Table 3

Clinical Characteristics

Characteristic	*n*	%
Mental health diagnosis since becoming a military spouse		
Never diagnosed	170	47.09
Depression	191	32.13
Anxiety	156	43.21
Stress	53	14.68
Post-traumatic stress disorder	36	9.97
Psychosis	6	1.66
Other	20	5.54
Current symptoms above clinical cut-off		
Depression	185	51.25
Anxiety	193	53.46
Stress	213	59.0
Adjustment	205	56.79
Trauma	185	51.25
Psychotic-like experiences	84	23.27

Past Help-seeking

Sixty per cent of participants (*n* = 219) reported previously wanting to seek help for PMH difficulties, and of those who wanted help, 70% (*n* = 154) sought it. Among participants who sought help, the most frequently reported sources were their intimate partner (n = 107, 69.48%), General Practitioner (GP; n = 106, 68.83%), and an NHS mental health professional (n = 100, 64.94%). Of those who sought help, 63% (*n* = 97) received help, and 57.73% (*n* = 56) found it adequate for their needs. Overall, 33.79% of participants (*n* = 122) reported an unmet need for

PMH support, defined as either wanting but not seeking help (*n* = 65) or seeking help but not receiving help (*n* = 57).

Formal and Informal Help-seeking Intentions

Interestingly, 96.68% (*n* = 349) reported they are likely to seek help for future PMH difficulties from at least one formal or informal source (i.e., source rating greater than four). Slightly fewer participants (n = 319; 88.37%) reported that they were likely to seek help from at least one formal source, possibly indicating a marginal preference for informal support. The most frequently endorsed sources were their intimate partner (n = 305; 84.49%), a friend (n = 244; 67.59%), or their GP (n = 203; 56.23%). However, 27.71% of participants (n = 100) also reported that they would be unlikely to seek help from anyone.

Theory of Planned Behavior Constructs

Table 4 presents the descriptive scores for each of the TPB construct measures. Scores spanned across most of the scale ranges, indicating substantial variability in participant responses. Mean scores suggest relatively positive attitudes toward professional help-seeking and moderate levels (i.e., near mid-range) of stigma-related subjective norms, PBC, and intentions to seek help.

Table 4

TPB Measure Descriptives

TPB Construct	Mean	SD	Range
Attitudes			
Item	5.55	1.12	1 – 7
Total	49.91	10.09	9 – 63
Subjective norms			
Item	2.58	0.62	1 – 4
External stigma	2.59	0.66	
Disclosure stigma	2.57	0.79	
Total	25.81	6.19	10 – 40
External stigma	15.54	3.98	6 – 24
Disclosure stigma	10.26	3.17	4 – 16
PBC			
Item*	2.95	0.61	1 – 5
Facilitators	3.23	0.69	
Barriers	3.16	0.93	
Total*	64.85	13.47	22 – 100
Facilitators	19.36	4.15	6 – 30
Barriers	50.51	14.85	16 – 80
Intentions			
Item	3.40	1.06	1 – 7
Total	11.45	3.82	3 – 21

* = barrier items reverse scored then summed with facilitator items to calculate total PBC descriptives, with higher scores indicating higher PBC

Correlations

Table 5 presents the bivariate correlation matrices between study variables. As expected in TPB models, all three core constructs were significantly correlated. Help-seeking intentions were positively associated with attitudes (r = .182, p < .001) but not significantly associated with subjective norms (r = -.079, p = .134) or PBC (r = -.074, p = .159). Intentions were not significantly associated with any other variable.

Table 5

Bivariate Correlations Among Study Variables

#	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	Age	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	Ethnicity	.065	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3	Education	.296**	.023	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4	Parity	.278**	.021	-.153**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5	Past PMH difficulty	.007	.099	-.103	.187**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6	Past help-seeking	.013	-.033	.004	.017	.444**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7	Number of Relocations	.328**	-.026	.132*	.168**	.005	-.005	—	—	—	—	—	—	—	—	—	—	—	—	—
8	Number of Deployments	.095	.009	.029	.101	-.015	.040	.045	—	—	—	—	—	—	—	—	—	—	—	—
9	Social support	.013	.014	.186**	-.136**	-.105	-.021	-.056	.037	—	—	—	—	—	—	—	—	—	—	—
10	Depression	-.162**	-.084	-.256**	.058	.305**	.305**	-.105*	-.016	-.308**	—	—	—	—	—	—	—	—	—	—
11	Anxiety	-.273**	-.044	-.225**	-.008	.291**	.309**	-.156**	.024	-.215**	.772**	—	—	—	—	—	—	—	—	—
12	Stress	-.206**	-.082	-.240**	-.007	.333**	.341**	-.099	-.022	-.257**	.810**	.768**	—	—	—	—	—	—	—	—
13	ADNM-8	-.170**	.030	-.181**	-.085	.287**	.272**	-.068	-.028	-.285**	.531**	.563**	.546**	—	—	—	—	—	—	—
14	PCL-6	-.227**	.012	-.268**	-.010	.362**	.373**	-.084	.022	-.286**	.663**	.692**	.671**	.668**	—	—	—	—	—	—
15	PQ-16	-.228**	.007	-.243*	.098	.301**	.236**	-.064	.098	-.373**	.584**	.596**	.536**	.511**	.610**	—	—	—	—	—
16	Attitudes	.159**	.094	.088	-.053	-.074	.085**	-.069	.097	.405**	-.217**	-.162**	-.252**	-.189**	-.124**	-.246**	—	—	—	—
17	Subjective norms	-.144**	.094	-.251**	.012	.218**	.096	-.137**	-.018	-.250**	.359**	.335**	.344**	.444**	.358**	.415**	-.224**	—	—	—
18	PBC	-.207**	0.75	-.212**	.033	.186**	.042	-.084	.028	-.209**	.427**	.382**	.435**	.439**	.409**	.382**	-.254**	.619**	—	—
19	Intentions	-.066	.014	-.020	-.022	.015	.035	-.022	-.044	.066	-.048	.008	-.022	-.043	-.041	-.031	.182**	-.079	-.074	—

* = $p < .05$. ** = $p < .01$

Hierarchical Multiple Regression Examining Formal PMH Help-seeking Intentions

A two-step hierarchical regression was conducted to examine the associations between TPB constructs, contextual variables, and formal PMH help-seeking intentions. The results are presented in Table 6.

In Step 1, the three TPB constructs were entered as the independent variables. The overall model significantly explained variance in help-seeking intentions (R^2 = .035, $F(3, 357)$ = 4.28, p = .006). Greater positive attitudes were significantly associated with stronger help-seeking intentions (β = .172, p = .002), while subjective norms (β = -.035, p = .599) and PBC (β = -.009, p = .893) were not significantly associated with intentions.

In Step 2, the addition of perceived social support, military relocations and deployments, and clinical measures explained an additional 1.4% of the variance in formal PMH help-seeking intentions; however, this increase was not statistically significant (ΔR^2 = .014, $\Delta F(9, 348)$ = 0.59, p = .806). Greater positive attitudes remained significantly associated with stronger help-seeking intentions (β = .198, p < .001), but no other variables reached significance.

Table 6

Hierarchical Regression Examining Help-Seeking Intentions

	B	*95% CI for B*	*SE B*	*β*	*p*	R^2	ΔR^2
Step 1					.006	.035	.035
Attitudes	.022	[.008, .035]	.007	.172	.002		
Subjective norms	-.007	[-.034, .020]	.014	-.035	.599		
PBC	-.001	[-.011, .011]	.006	-.009	.893		
Step 2					.123	.049	.014
Attitudes	.025	[.010, .040]	.008	.199	< .001		
Subjective norms	-.010	[-.039, .018]	.014	-.050	.478		
PBC	-.001	[-.014, .013]	.007	-.007	.917		
Social support	-.002	[-.013, .009]	.006	-.024	.691		
Number of relocations	-.003	[-.086, .080]	.042	-.004	.943		
Number of deployments	-.050	[-.125, .026]	.038	-.069	.197		
Depression	-.011	[-.031, .008]	.010	-.116	.252		
Anxiety	.014	[-.008, .036]	.011	.119	.218		
Stress	.008	[-.013, .030]	.011	.075	.454		
Adjustment symptoms	-.001	[-.029, .028]	.015	-.004	.954		
Trauma symptoms	-.015	[-.046, .016]	.016	-.084	.345		
Psychotic-like experiences	.011	[-.023, .044]	.017	.048	.525		

Discussion

This study examined the associations between TPB constructs, contextual factors, and formal PMH help-seeking intentions among UK military spouses and partners. The current sample was predominantly White, based in England, and reported high rates of previous mental health diagnoses and current PMH symptoms. Over half of participants reported at least one diagnosed mental health difficulty since becoming a military partner. Similarly, more than half of

participants scored above the clinical cut-off for depression, anxiety, stress, adjustment difficulties, and trauma symptoms. In particular, the proportion of participants scoring above the cut-off for depression (51.25%; n = 185) was similar to the highest estimate identified in the review by Klaman and Turner (4–50.7%; 2016). Though these rates are higher than those found in the general population, they are broadly consistent with previous literature indicating military partners may be at elevated risk of poor mental health, particularly in the perinatal period (Verdeli et al., 2011; Klaman & Turner; 2016).

The descriptive findings on past and future help-seeking also highlight important gaps in treatment. While most participants reported previously wanting help for PMH difficulties, one-third experienced an unmet need, either because they did not seek help or because help was not received. However, previous help-seeking was reported by 70% of the current sample, compared with approximately 50% of the general population (Morris et al., 2025), suggesting the sample are more engaged with services than typically observed.

Partners, GPs, and NHS mental health professionals were the most common sources of past help. However, most participants reported they would be willing to seek help for future PMH difficulties, primarily from their partners, friends, or GP; possibly indicating a preference for informal support. Moreover, over a quarter of participants reported that they would be unlikely to seek help from anyone. Of those who did seek help, many reported that the help they received was inadequate. Together, these findings indicate that this group may experience challenges in accessing, receiving, and benefiting from appropriate support for PMH difficulties.

The elevated rates of distress, combined with the levels of unmet needs and a substantial group reporting a reluctance to seek help, illustrate the importance of understanding the processes that form intention to seek help within this population.

Theory of Planned Behavior

Participants reported relatively positive attitudes toward professional help-seeking compared with previous perinatal and military samples. For example, total mean attitude scores

in the current sample (*M* = 49.91; *SD* = 10.09) were higher than those reported among pregnant women in India, which ranged from 36.28 to 37.25 between age groups (*SD* = 8.2 – 9.7; Nandhana et al., 2025). Similarly, the current sample item mean scores (*M* = 5.55; *SD* = 1.12) were also slightly higher than those reported in a sample of female military veterans (*M* = 3.91; Kuntz, 2025).

Additionally, subjective norms, measured by external (M = 2.59, *SD* = 0.66) and disclosure stigma (*M* = 2.57, *SD* = 0.79), were higher among the current sample than among mothers recruited from a maternity ward in the United States (external stigma: *M* = 0.90, *SD* = 0.70; disclosure stigma: *M* = 1.40, *SD* = 0.70; Fleischman & Connelly, 2022).

Furthermore, the current sample more strongly endorsed facilitators to care (*M* = 3.23, *SD* = 0.69) compared with barriers to care (*M* = 3.16, *SD* = 0.93), on the measure of PBC. The current sample reported similar facilitator item-mean scores to those reported by a sample of female veterans in the United States (*M* = 3.52, *SD* = 0.89; Fitzke et al., 2024). Lastly, total mean scores of formal help-seeking intentions within the current sample (*M* = 11.45, *SD* = 3.82), were relatively similar to those reported in a sample of Chinese mothers with PND (*M* = 12.17, *SD* = 4.06; Zou et al., 2025). However, item-mean intention scores in the current sample (*M* = 3.40, *SD* = 1.06) were slightly lower compared to intention scores reported in one study of perinatal mothers in Portugal (*M* = 4.48, *SD* = 1.60; Fonseca & Canavarro, 2017).

Correlational analysis indicated that both attitudes and PBC were significantly associated with intentions, while subjective norms were not. Additionally, attitudes, subjective norms, and PBC were all moderately intercorrelated, suggesting some shared variance between the constructs. While these constructs are theoretically distinct within the TPB framework, they may reflect overlapping beliefs and experiences. For example, for some individuals, the perceived views and judgements of others (e.g., subjective norms) may be associated with less positive evaluations of help-seeking (e.g., attitudes).

The first step of the regression model found that only attitudes toward help-seeking were significantly associated with greater formal PMH help-seeking intentions. These findings only partially align with prior research applying the TPB to mental health help-seeking, which has consistently found attitudes and PBC to be associated with intentions (Adams et al., 2022). The lack of significant effects for subjective norms and PBC were unexpected given the substantial body of literature which has identified both logistic factors (e.g., PBC) and fear of social consequences or judgements (e.g., subjective norms) as salient barriers to mental healthcare for military spouses and partners (Schvey et al., 2021, Eaton et al., 2008; Nguyen et al., 2023). Additionally, the inclusion of contextual factors (e.g., social support, number of relocations, number of deployments, and clinical symptom severity) in the second step of the model did not explain additional variance, beyond the TPB constructs.

Overall, while attitudes toward help-seeking were significantly associated with intentions, the strength of the association was small (β = .198), and the overall variance explained by the TPB constructs was limited (R^2 = .035; 3.5%). This suggests that attitudes may play a role in shaping intentions, but they are unlikely to be a primary determinant of PMH help-seeking within this population. Instead, these findings indicate that PMH help-seeking among military spouses and partners is likely a complex, multi-factorial process that is not fully captured by the TPB model and broader contextual factors.

Clinical Implications

The findings of the current study have several implications for PMH support for military spouses and partners in the UK. Firstly, it is important to note the high levels of psychological distress within the current sample, alongside the substantial proportion of participants reporting unmet needs. This highlights the importance of routine screening and early-identification of clinical need within this population.

Second, the small but significant role of attitudes toward help-seeking suggests that interventions targeting the appraisal of help-seeking may have some influence on intentions to

seek help within this population. Psychoeducation and outreach initiatives delivered to both the military community and wider society could help normalize PMH difficulties and promote more positive evaluations of help-seeking. However, the present findings, alongside the wider literature, suggest that improving attitudes alone is unlikely to be sufficient and interventions should be integrative to reflect the multi-factorial nature of help-seeking (Xu et al., 2018; Adam et al., 2022). Qualitative findings from existing literature suggest that services should focus on continuity of care, access to childcare, understanding of military life among mental health professionals, stigma reduction, and partner involvement (Nguyen et al., 2023). Additionally, utilizing co-production with military spouses and partners may ensure that service provision and interventions appropriately meet the unique needs of military families.

Lastly, given that partners, friends, and GPs were the most endorsed sources of future help-seeking, these groups could be considered important resources. For example, serving personnel and GPs could be provided with information and resources on common PMH experiences and relevant signposting. However, it is important to consider the possible reliance on informal help-seeking sources within this population which may delay the recognition of specialist PMH care needs. For example, although partners were the most endorsed source of future help-seeking, the frequent deployments and separations within military life may limit their availability, potentially increasing the risk of delayed support or unmet needs.

Limitations

Several limitations of the current study warrant highlighting. Given that the sample was primarily based in England, findings may not generalize to military spouses living in Scotland, Wales, and Northern Ireland. It is worth noting that health services vary across the UK, and PMH provision differs considerably across regions. However, according to MOD statistics, the majority of serving personnel are based in South East and South West England, which aligns with the current sample.

Similarly, the sample was predominantly White, with only 5% of participants belonging to Black, Asian, Mixed, and Other ethnic backgrounds. Unfortunately, the MOD does not report data on the ethnic background of the spouses and partners of serving personnel for appropriate comparison. However, the Office for National Statistics (ONS) reported that in the 2021 census, 96% of spouses and partners of armed forces veterans were White, which aligns closely with the present sample (ONS, 2023). Though it is still possible that both findings underrepresent individuals from Black, Asian, Mixed, and Other ethnic backgrounds, as some ethnically minoritized groups experience systemic barriers to inclusion and may be less likely to participate in surveys and research (Bonevski et al., 2014). Nevertheless, the imbalance among ethnic groups in this sample meant that the study was underpowered to detect effects between ethnicity and intentions or TPB constructs.

Furthermore, the majority of participants were likely recruited via social media through a military families charity focused on perinatal mental health. As a result, the sample may overrepresent individuals with existing PMH difficulties and those who are likely to seek help for PMH difficulties. This may have inflated the reported clinical characteristics, help-seeking histories, and help-seeking intentions of the present sample. Therefore, these findings may not be generalizable to the entire military partner community, which may have more varied mental health and help-seeking experiences.

The lack of evidence for the role of subjective norms and PBC warrants further consideration. In the current study, subjective norms were operationalized using the external and disclosure stigma subscales of the MISS (Moore et al., 2017). The lack of association between subjective norms and intentions was unexpected, given the well-established role of stigma in shaping PMH help-seeking among military partners (Nguyen, 2020). In line with Ajzen's conceptualization, these items capture perceived negative judgments and actions of others. However, they may not fully distinguish between perceived stigma and the perceived expectations of important others (e.g., their spouse, the military community, or wider family

members), the latter being central to the subjective norms construct. As this measure was perinatal-focused, it likely did not explicitly reflect the unique, salient beliefs found within the military community.

Similarly, PBC was operationalized using the RAND Military Barriers and Facilitators to Care Item Banks (Acosta et al., 2018). Although PBC demonstrated a small bivariate correlation with formal help-seeking intentions, it was not associated with intentions in the regression model. This may also indicate that the RAND items overlapped conceptually with attitudes and perceived stigma. Moreover, PBC may be more relevant to the translation of intention to behaviors, where structural barriers are more salient.

It is also important to consider the potential overlap between explanatory variables. Several of the TPB and clinical variables demonstrated moderate to strong bivariate correlations. However, multicollinearity testing indicated that these correlations did not violate statistical assumptions. Despite this, the shared variance may have reduced the ability to detect effects within the regression.

Additionally, the cross-sectional design limits conclusions about causality or the temporal ordering between TPB constructs and intentions. Finally, the current study did not measure actual help-seeking behaviors as an outcome and therefore cannot make assumptions about the help-seeking intention–action gap among this population.

Future research

Future studies should utilize longitudinal designs to examine whether intentions progress into actual help-seeking behaviors over time among military spouses and partners. More diverse and representative samples recruited from a wider pool of spouses are needed to more clearly understand the effects of variables such as ethnicity and region on PMH help-seeking. Additionally, other models of help-seeking behavior, such as the Seeking Mental Health Care model (SMHC; McLaren et al., 2022) or the Integrated Behavioral Model of Mental Health Help-seeking (IBM-HS; Hammer et al., 2024), could explore the role of other contextual factors, such

as mental health literacy and earlier stages of help-seeking (i.e., recognition and appraisal of symptoms). Finally, co-produced intervention studies or service improvement initiatives aimed at promoting help-seeking among military spouses and partners could be trialed to evidence the effect on intentions and behaviors.

Conclusion

This study applied the Theory of Planned Behavior to PMH help-seeking among UK military spouses and partners. The findings revealed that PMH difficulties and unmet needs are common among this sample. Future help-seeking intentions were marginally shaped by attitudes toward help-seeking, but not by stigma-informed subjective norms or PBC. Although the TPB offered a theoretically grounded framework for examining PMH help-seeking intentions among military spouses and partners, the findings suggest that the model may not fully account for the range of factors influencing help-seeking among this population. Mental health help-seeking specific models may better capture experiences of military spouses and partners considering PMH support. The results highlight the importance of understanding and targeting how military spouses and partners appraise the utility of help-seeking, while also considering the complex nature of PMH help-seeking among this population.

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Chapter 5: Additional Methods

Word count: 1,568

Additional Methods

Systematic Review and Meta-Analysis

Analytical Approach

The original aim of this review was to quantitatively synthesise and compare the associations between the three TPB constructs (attitudes, subjective norms, and perceived behavioural control [PBC]) and help-seeking intentions. A univariate meta-analysis was considered, however, individual studies reported regression coefficients for all three TPB constructs within the same regression model participant sample. This resulted in effects that were statistically correlated, rather than independent. Therefore, analysing each construct in separate meta-analyses would have ignored this dependency and prevented the constructs from being compared within a single meta-analytic model.

To address this, a multivariate approach allowed the three TPB constructs to be modelled simultaneously while accounting for the covariance between their effect estimates (Cheung, 2019). However, because individual studies contributed multiple effects, the data had a hierarchical structure, with effects nested within studies. Ignoring this structure would have resulted in the effects contributed by the same study being treated as independent effects. This would have violated the assumption of independence and increased the risk of Type I error (Konstantopoulos, 2011). Therefore, a multilevel component was incorporated into the model to account for both the dependence of multiple effects within the same study and the variation between studies (Konstantopoulos, 2011).

The review also included moderator, sensitivity, and publication bias analyses to explore heterogeneity, robustness of results, and small-study effects. Considering that multiple moderator analyses were conducted to examine whether study characteristics explained heterogeneity in the associations between TPB constructs and help-seeking intentions, the Holm-Bonferroni correction was applied to the omnibus moderator tests to control for family-wise Type I error rate (Holm, 1979). This approach was selected because it is less conservative

than the traditional Bonferroni correction. The correction was applied only to the moderator analyses as these addressed the same methodological question attempting to identify sources of heterogeneity. Sensitivity and publication bias analyses were not included in this correction given that they addressed distinctly separate methodological questions.

Quality Appraisal Approach

The included studies comprised primarily of cross-sectional studies, with only two studies incorporating prospective follow-up to examine subsequent help-seeking behaviours. While only one of these studies was included in the meta-analysis, it still contributed cross-sectional associations between TPB constructs and help-seeking intentions to the primary meta-analysis and the study quality moderator analysis. Several approaches to quality appraisal were considered. Applying a tool such as the Joanna Briggs Institute Checklist for Cohort Studies (Barker et al, 2025) to these prospective studies would have enabled assessment of the longitudinal features. However, this checklist is primarily designed for studies comparing exposed and non-exposed cohorts. The prospective elements of the two included studies examined continuous TPB construct measures as prognostic factors within a single cohort. Therefore, the Quality in Prognostic Studies (QUIPS; Hayden et al., 2013) was selected as a supplementary appraisal tool, alongside the JBI, to retain the data for the study quality moderator test for help-seeking intentions, while also appraising the longitudinal components.

Survey Development

The survey was developed as part of a joint research study exploring perinatal mental health (PMH) difficulties among UK military spouses and partners. The survey development and measure selection were informed by the Theory of Planned Behaviour (TPB; Ajzen, 1991), previous literature, and consultation with academic supervisors and a patient and public involvement (PPI) group. The PPI group was made up of staff from the Dandelion Military Families charity who are military spouses and mothers themselves.

Ajzen (1991) recommends that TPB questionnaires are developed to reflect the salient beliefs of the target population and behaviour. However, following supervisory discussions, the development and psychometric validation of bespoke TPB measures for perinatal military spouses and partners was beyond the scope of this project. Therefore, it was decided to utilise existing validated measures that most closely reflect the salient beliefs of military spouses and partners during the perinatal period.

The Mental Help Seeking Attitudes Scale (MHSAS) was selected to measure attitudes toward professional mental health help-seeking due to its strong psychometric properties (Hammer et al., 2018). The Intention to Seek Professional Help (ISPH) dimension of the General Help-seeking Questionnaire (GHSQ; Wilson et al., 2005) was selected to achieve conceptual correspondence between attitudes toward professional help-seeking and intentions to seek help. This ensured that the focus on formal help-seeking was consistent across the TPB model as recommended by Ajzen (1991).

Furthermore, in the absence of a validated measure encompassing both military and perinatal experiences, measures were selected to reflect the salient beliefs of both contexts separately. Specifically, the City MISS captured stigma-related subjective norms within a perinatal context, while the RAND measure reflected military-specific barriers and facilitators relevant to perceived behavioural control (PBC). The RAND items were adapted for civilian spouses and partners following consultation with the PPI group, as the original items were designed to capture the experiences of serving personnel only. The PPI group met online to discuss the rephrasing until a consensus was reached. The group were also consulted to ensure the survey content, military terminology, and recruitment materials were appropriate and acceptable to military spouses and partners.

Participants and Recruitment

Participants were recruited between January and April 2025 using a cross-sectional survey hosted on Jusic Online Surveys. Recruitment advertisements were disseminated across

multiple military-affiliated Facebook and Instagram pages, including groups for military parents, spouses and partners, service family accommodation, and community organisations such as military choirs. Completed responses increased substantially following publicity posts by Dandelion Military Families on Instagram.

Interested individuals accessed the participant information sheet via the survey link before providing electronic informed consent. Participants then completed an eligibility screening section before progressing to the questionnaire. Individuals were required to confirm that they were aged 18 years or older, were the civilian spouse or partner of a currently serving member of the British Armed Forces and were either pregnant or within 24 months postpartum.

Given the use of social media recruitment, several steps were taken to improve data integrity. Responses were screened for eligibility, unusually quick completion times (< 20 minutes), and repetitive or implausible response patterns that may indicate automated or fraudulent responding. Responses demonstrating evidence of bot activity or failing eligibility criteria were excluded prior to analysis.

An a priori power analysis indicated that a minimum sample of 159 participants was required. Recruitment continued until the planned recruitment period concluded, resulting in a final sample of 361 participants. Although this exceeded the minimum required sample size, closing recruitment early may have unnecessarily excluded eligible participants from contributing to research within an underserved population. The larger sample also increased statistical precision, reduced sampling error, and improved confidence estimates. Recruiting 361 military spouses and partners represents a notable strength of the study, given the recognised challenges associated with recruiting military families into research. The successful collaboration with military community organisations and social media groups likely contributed to the relatively large sample.

Assumption Testing

Prior to analysis, the assumptions of ordinary least squares regression were assessed to ensure the hierarchical regression model was appropriate. Histograms and normal probability (P–P) plots of the standardised residuals indicated that residuals were approximately normally distributed. Scatterplots of standardised residuals against standardised predicted values demonstrated acceptable linearity and homoscedasticity.

Multicollinearity was assessed using tolerance statistics and variance inflation factors (VIF). All tolerance values exceeded the recommended threshold of 0.20 and all VIF values were below 4, indicating no evidence of significant multicollinearity. Outliers were assessed using Cook's distance, with all values below the recommended threshold of 1, indicated that no influential outliers were identified. Finally, the Durbin–Watson statistic (1.83) indicated independence of residuals. Collectively, these results suggested that the assumptions underlying the hierarchical regression analysis were adequately met.

Bivariate Correlation

Bivariate correlations were conducted to describe the relationships between variables, examine potential multicollinearity prior to the primary hierarchical regression analyses, and inform the inclusion of possible demographic control variables within the primary regression. A correction for multiple comparisons (e.g., Bonferroni adjustment) was not applied because the correlations served as preliminary analyses supported the pre-specified and theoretically grounded regression model. Furthermore, the correlation analyses were not intended to test hypotheses about the data. Rather, the hierarchical regression served as the primary confirmatory analysis, which was informed by the TPB and previous literature. The application of alpha adjustments is generally not recommended in such situations due to the risk of reducing statistical power and increasing the likelihood of Type II errors (García-Pérez, 2023).

Regression Model Development

The hierarchical regression model was specified a priori based on the theoretical structure of the Theory of Planned Behavior rather than being informed by the results of the

bivariate correlations. Step 1 therefore included the three core TPB constructs (attitudes, subjective norms, and perceived behavioural control), consistent with Ajzen's proposition that these constructs are the most proximal determinants of behavioural intentions.

Step 2 included contextual variables identified from both the TPB literature and military mental health literature as potential influences on help-seeking intentions beyond the core TPB model. These comprised perceived social support, military relocations, military deployments, and clinical symptom severity. This hierarchical approach enabled the incremental contribution of contextual factors to be examined after accounting for variance explained by the TPB constructs.

Demographic variables were initially explored in the preliminary correlation analyses which found none demonstrated statistically significant associations with help-seeking intentions. Therefore, they were not included as control variables in the final model. Alternative regression models containing fewer variables were considered. However, the final model retained all pre-specified contextual variables to avoid post hoc model selection to maintain consistency with the study aims and theoretical framework.

Chapter 6: Discussion and Critical Review

Word count: 3,575

Discussion and Critical Review

This chapter aims to further discuss the findings of this thesis portfolio, critically evaluate the methodological strengths and weaknesses, and highlight opportunities for future research.

Overview of Findings

First, the systemic review and meta-analysis aimed to quantitatively synthesise the existing literature applying the Theory of Planned Behaviour (TPB) to adult mental health help-seeking. The review sought to compare the relative strength of the associations between attitudes, subjective norms, and perceived behavioural control (PBC) on help-seeking intentions and behaviours, addressing a gap in the literature. A further aim was to examine whether the strength of these associations varied across population group, geographic region, publication year, study quality, help-seeking source, and type of mental health difficulty, and to assess heterogeneity and publication bias.

The meta-analysis of 38 studies found that all three TPB constructs were significantly associated with help-seeking intentions. Attitudes demonstrated the strongest and most consistent association with intentions, followed by subjective norms, and then PBC. In contrast, only attitudes were significantly associated with help-seeking behaviours, though findings were based on a limited number of studies. Moderator analyses indicated that these patterns were largely stable across populations and study characteristics. However, PBC showed sensitivity to study region and publication year. Publication bias analyses suggested that effect sizes may be inflated in the literature, particularly for PBC. Bias-adjusted estimates indicated a weaker and non-significant association between PBC and intentions. Overall, the findings suggest that while the TPB is a useful framework for conceptualising mental health help-seeking intentions, its explanatory power is inconsistent across constructs, with attitudes playing a central role, and subjective norms and PBC showing greater variability.

Second, the empirical study examined the associations between the TPB constructs, contextual factors (i.e., social support, clinical symptom severity, and relocations and

deployments), and perinatal mental health (PMH) help-seeking intentions among 361 UK military spouses and partners using the TPB framework. The study sought to test whether the TPB constructs and contextual factors were associated with help-seeking intentions. Attitudes toward help-seeking were significantly associated with help-seeking intentions, while subjective norms, PBC, and all other contextual variables were not. However, the association between attitudes and intentions was small (β = .198), and the TPB constructs explained a limited amount of variance (R^2 = .035; 3.5%)

These findings suggest that attitudinal beliefs contribute to the formation of PMH help-seeking intentions within a sample of UK military spouses and partners, but their influence is minimal. Taken together, the findings of this portfolio indicate that while attitudinal beliefs demonstrate the most consistent association with intentions within the existing literature, the strength of the association with subjective norms and PBC appears heavily dependent on construct operationalisation. Additionally, the overall explanatory power of the model is inconsistent. This suggests that mental health help-seeking, especially within a perinatal military spouses and partners, is likely influenced by a broader range of factors not fully captured by TPB constructs alone.

Strengths and Limitations

Theory of Planned Behaviour

A key strength of the TPB model is that it has been widely applied to help-seeking across many populations and contexts. This has produced a large body of evidence, which allows findings to be meaningfully synthesised across studies. As shown in the meta-analysis, all three TPB constructs were consistently associated with mental health help-seeking intentions, suggesting that TPB captures important and distinct psychological processes involved in help-seeking decision-making. Another strength of the TPB model is its concise conceptual framework, which relies on a limited number of core constructs to explain intention formation. This reduces measurement burden and may support data quality and participation.

Furthermore, TPB considers both internal and external influences on behavioural intentions, allowing for research to capture psychological and structural determinants of help-seeking. Lastly, the TPB allows flexibility in construct operationalisation, so long as the measures are consistent with the specific behaviour, context, and timeframe being investigated. This enables the constructs to be operationalised in a way that reflects the unique experiences and beliefs of specific population groups, such as military spouses and partners within the perinatal period.

However, an important limitation of the TPB model is that it was not developed specifically to explain mental health help-seeking and may therefore struggle to capture the complexity of this behaviour. Perinatal mental health help-seeking has been shown to be influenced by factors such as mental health literacy, symptom recognition, emotional readiness, and confidence in navigating services (Daehn et al., 2022, Webb et al., 2023). While some of these influences may be included within PBC, they are not explicitly represented within the TPB model. Findings from this portfolio suggest that variability in how PBC and subjective norms are operationalised may contribute to inconsistent explanatory utility when explaining mental health help-seeking.

Furthermore, TPB's assumption that behaviours follow a linear progression from beliefs to intentions to action, is a considerable weakness when applied to mental health help-seeking. Qualitative and meta-ethnographic research indicates that help-seeking, particularly for PMH difficulties, is often cyclical, fragmented, emotionally driven, and involving repeated shifts between recognition, avoidance, disclosure, and engagement (Sorsa et al., 2021). Such processes may be disrupted by fluctuating symptom severity, stigma, fear of consequences, and interpersonal dynamics, none of which are easily represented by a linear intention–behaviour framework (Sorsa et al., 2021).

The findings from the empirical study suggest that the TPB does not explain formal PMH help-seeking intentions among UK military spouses and partners. Specific mental health help-seeking a models may provide a deeper understanding of this behaviour. For example, The

Seeking Mental Health Care (SMHC) model includes factors such as mental health literacy, previous treatment experiences, stigma, causal beliefs, and self-efficacy which may be especially relevant to perinatal and military populations (McLaren et al., 2022). Similarly, the Integrated Behavioural Model of Mental Health Help-Seeking (IMB-HS; Hammer, 2024) incorporates factors such as cultural influences, social support, and mental health perceptions, knowledge, and skills. Furthermore, the recent publication of a comprehensive measurement battery which includes validated measures of the TPB constructs (IBM-HS-Q; Hammer et al, 2026) represents an advancement that will facilitate more consistent evaluation of mental health help-seeking. Despite the strengths of these alternative models, they both require the measurement of substantially more constructs, increasing the survey length and participant burden. Additionally, both models are relatively new and therefore have smaller empirical evidence bases compared to the TPB, limiting opportunities for comparison across studies and populations.

Taken together, these strengths and limitations suggest that while the TPB provides a valuable foundation for understanding help-seeking, it may benefit from integration with models that more explicitly capture non-linear processes, earlier stages of help-seeking, and the role of mental health literacy and emotional readiness.

Systematic Review and Meta-Analysis

A key strength of the systematic review is its use of multivariate multilevel meta-analysis. The multivariate approach allowed for the modelling of associations between multiple TPB constructs and help-seeking outcomes, simultaneously, while accounting for within-study correlations between the TPB constructs. The multilevel approach ensured that the small number of studies which contributed more than one effect size for a TPB construct from a single sample were not overrepresented in the pooled estimates. For example, Westerhof et al. (2022) contributed one set of effects which examined the association between TPB constructs and preventative mental health help-seeking and a second set of effects which examined the

association between TPB constructs and “therapeutic” mental health help-seeking (i.e., following symptom development). A traditional univariate meta-analysis would not have accounted for the dependence between these effects, possibly leading to a biased influence on the pooled estimates.

Despite these strengths, the use of the multivariate approach required the aggregation of some effect sizes where studies reported multiple estimates for the same construct and outcome (i.e., splitting subjective norms into descriptive norms and injunctive norms). Sensitivity analyses indicated that aggregating effects influenced the pooled estimates of the association between attitudes and intentions.

A further limitation of the review was the presence of substantial heterogeneity and evidence of small-study bias across TPB constructs. Across all subgroup and sensitivity analyses, heterogeneity remained high, indicating that most of the between-study variability was likely explained by factors that could not be tested, such as differences in construct operationalisation. Similarly, publication bias analyses suggested that the strength of PBC may be overestimated in the literature. However, this result was further examined, and bias-adjusted estimates were reported for transparency.

Empirical Study

One strength of the empirical study was its application of a theoretically grounded model to enable the identification of mechanisms underlying help-seeking intentions. However, the TPB constructs only explained 3.5% of the variance, indicating that the TPB does not adequately account for the complexity of PMH help-seeking within this population. Moreover, the handling of missing data facilitated data retention. However, while it is unlikely that this affected the findings, given the low rate of missing data, this approach is known to limit the ability to fully capture individual variability (Little & Rubin, 2019).

Furthermore, the operationalisation of subjective norms as external and disclosure stigma, measured using the City Mental Illness Stigma Scale (MISS; Moore et al., 2017)

represents both a strength and a limitation. Measuring stigma is highly relevant in perinatal contexts, where fears of judgement, perceived disclosure consequences, and parental identity may be particularly important. Ajzen (1991) emphasises that TPB constructs should be operationalised using beliefs that are salient to the specific behaviour and population. Therefore, PMH stigma-based items were considered theoretically appropriate for capturing perceived social influences on help-seeking in this context. However, it is possible that the MISS did not fully capture the social pressure from important others, central to the subjective norms construct. For example, a measure better aligned with subject norms might examine the perceived pressure from the military community (e.g., their spouse or other military spouses and partners) to either seek or not seek help.

Finally, the measures used in the current study demonstrated acceptable to excellent internal consistency (*a* = 0.70 – 0.93), similar to, or exceeding, estimates reported in prior studies. This indicates that the constructs were reliably measured within the current study sample of UK perinatal military spouses and partners.

Among the TPB constructs, attitudes toward professional help-seeking were measured by the Mental Help Seeking Attitudes Scale (MHSAS; Hammer et al., 2018). The MHSAS is frequently used in TPB-based help-seeking research, and its strong performance (*a* = .92) increases confidence that the observed role of attitudes in explaining PMH help-seeking intentions was reliably measured within the current sample. Additionally, despite the acknowledged limitations of operationalising subjective norms using the MISS, the measure also demonstrated excellent internal consistency (*a* = 0.92), confirming that perceived PMH stigma-related social judgements were reliably measured in this sample of military spouses and partners.

The measure of PBC only demonstrated acceptable internal consistency within the current sample. The RAND Military Barriers and Facilitators Item Banks, which was used to measure PBC, required adaptation to reflect the experiences of military spouses and partners,

rather than serving personnel. This may have contributed to the weaker performance within the current sample (*a* = 0.79), compared to the RAND preliminary validity study which demonstrated acceptable marginal reliability for the facilitator items (MR = 0.75) and excellent marginal reliability for the barrier items (MR = 0.95; Acosta et al., 2018).

Lastly, the Intention to Seek Professional Help (ISPH) dimension of the General Help-seeking Questionnaire (GHSQ; Wilson et al., 2005) demonstrated the weakest, though still acceptable, internal consistency in the current sample (*a* = 0.70). While the GHSQ is one of the most frequently used measures of help-seeking intentions within TPB research, the ISPH subscale has shown mixed estimates of internal consistency across studies (Hammer & Spiker, 2018; Zou et al., 2025). However, use of the full GHSQ would not have been appropriate for the current study, due to the inclusion of informal sources within the measure. Such use of the GHSQ would have violated Ajzen's principle of correspondence, which states that measures of TPB constructs and outcomes should correspond across behaviours (e.g., attitudes toward seeking professional help and intentions to seek formal help). A more reliable and TPB-informed measure of formal help-seeking intentions may have been the Mental Help Seeking Intention Scale (MHSIS), which has demonstrated excellent internal consistency (*a* = 0.94) and evidence of predictive validity, with a correct classification of actual future help-seeking behaviours in 70% of cases (Hammer & Spiker, 2018).

Theoretical Implications

This thesis portfolio contributes to the understanding of mental health help-seeking through the TPB model. Across both the systematic review and meta-analysis and the empirical study, attitudinal beliefs demonstrated the most consistent association with help-seeking intentions. However, the strength of the association, and the overall variance explained by TPB constructs was limited. This suggests that, while positive evaluations of help-seeking play a role in intention formation, they are unlikely to be sufficient alone. Instead, these findings reflect the

complex, multi-factorial nature of help-seeking that extends beyond the constructs captured within the TPB framework.

Additionally, the portfolio highlights important limitations in how TPB constructs are typically conceptualised and operationalised within mental health research. Findings from the meta-analysis demonstrated substantial heterogeneity, possibly due to measurement differences, particularly for subjective norms and PBC. The empirical study showed that stigma-based operationalisations of subjective norms were not associated with mental health help-seeking intentions. Moreover, PBC, operationalised as barriers and facilitators to care, demonstrated a weak, positive correlation with help-seeking intentions but was not significantly associated. However, this may reflect strong intercorrelations between TPB constructs and therefore limited remaining variance explained by PBC once attitudes were accounted for.

Clinical Implications

The findings of this thesis portfolio have important implications for the design, delivery, and targeting of mental health services aimed at improving PMH help-seeking among military spouses and partners.

Implications from the Empirical Study

Findings from the empirical paper indicate high levels of psychological distress within the sample, alongside a substantial proportion of unmet need, perceived inadequacy of help received, and reluctance to seek help in the future. This suggests that many military spouses and partners may be experiencing significant difficulties that are not being adequately addressed. The results also appear to reflect not only barriers to forming help-seeking intentions, but also further challenges in accessing, receiving, and benefiting from appropriate support. If unaddressed, these difficulties may increase the risk of persistent or worsening mental health difficulties, with potential implications for both maternal and infant outcomes.

These findings highlight the clinical need for adequate screening and early-identification of PMH difficulties within this population. According to National Institute for Health and Care

Excellence guidance, screening for PMH difficulties should occur at the first primary care contact and during the early post-natal contacts (NICE, 2014). Additionally, the guidance states that healthcare professionals should recognise that mothers may be reluctant to disclose or discuss such difficulties due to stigma or worries about their baby being taken into social care.

The findings also highlight potential limitations in current PMH service provision for military spouses and partners. Within the NHS, the specialist PMH services are typically commissioned for up to 24 months postpartum. However, as seen in the present findings, the perinatal period often coincides with significant life disruptions for military spouses and partners, such as relocations and deployments. Such disruptions may increase vulnerability to PMH difficulties, limit access to social support, and hinder continuity of care and access to support. Moreover, while serving personnel have access to dedicated military mental health services, spouses and partners are primarily reliant on NHS provision, which may not fully account for the contextual demands of military life.

Existing NHS guidance recommends that all services, including GPs, should routinely ask if patients are members of Armed Forces families and ensure this is recorded appropriately (NHS England, n.d.). The American Psychological Association (APA) has published guidelines for psychological practice with members of the military and their families which further recommends that psychologists should consider military-specific experiences and cultural factors during assessment and formulation (APA, 2021). While it is important for clinicians to be aware of military life, they should avoid applying assumptions and generalisations about background, values, and beliefs to all military spouses and partners (APA, 2021). Rather, clinicans should remain curious and ask about the individual's experiences, perspectives, strengths, and expectation (APA, 2021). Subsequent PMH treatments should continue to be guided by NICE recommendations for the presenting problems (NICE, 2020). Collaborative, multidisciplinary teams should aim to promote continuity of care, address practical barriers to

accessing support, and coordinate with third-sector organisations such as OpCourage where appropriate.

Implications from the Systematic Review and Meta-analysis

The findings from the systematic review and meta-analysis indicate that attitudes consistently demonstrate a positive association with mental health help-seeking, possibly suggesting that interventions targeting negative appraisals of help-seeking may be useful. However, within the context of PMH help-seeking among UK military spouses and partners, the empirical findings indicate attitudes have a significant, but small influence on future help-seeking within this group.

Evidence demonstrating the efficacy of help-seeking interventions is limited. One meta-analysis found that help-seeking interventions can produce small but significant improvements in attitudes, but that these effects may not be sustained over time (Xu et al., 2018). Additionally, a review of TPB-based interventions for mental health help-seeking found two video interventions demonstrated significant improvements in attitudes immediately after the intervention. However, only one sample was assessed at follow-up, and their improvements did not translate to increases in help-seeking intention or behavior (Adams et al., 2022).

These findings highlight the importance of integrative approaches that target the multi-factorial nature of help-seeking. Xu and colleagues (2018) conclude that help-seeking interventions should involve more than psychoeducation and consider the influence of cognitive-behavioral strategies, in-person or video-based contacts, goal-directed motivational enhancements, collaborative care models including primary care, and mental health care quality improvements on help-seeking interventions. Additionally, given the identified contextual sensitivities of TPB constructs within the meta-analysis, help-seeking interventions should aim to consider the individual, systemic, and cultural influences on the help-seeking processes. Finally, the current sample reported a slight preference for informal support and most commonly endorsed their partner as a likely source of support for PMH difficulties in the future. Therefore,

informal support should be utilised to promote help-seeking behaviours, such as involving the partner in outreach initiatives or PMH interventions.

Future Research

The findings of this portfolio highlight several opportunities for future research on TPB applied to mental health help-seeking, as well as the experiences of military spouses and partners during the perinatal period and how these experiences shape mental health help-seeking.

Theory of Planned Behaviour and Help-seeking

There is a clear need to improve the conceptual clarity and measurement of TPB constructs within help-seeking research. Future studies should aim to develop and validate measures that better capture the mental health help-seeking context within TPB constructs. Longitudinal studies are needed to address the intention–action gap by monitoring help-seeking over time and identify predictors of observed help-seeking behaviours, rather than self-reported intentions.

Importantly, future research should continue to integrate TPB with broader models of help-seeking that capture earlier and non-linear stages of the process, such as symptom recognition, appraisal, and emotional readiness. Models such as the Integrated Behavioural Model of Help-Seeking (IBM-HS; Hammer et al., 2024) may address TPB's limitations while retaining its strengths. Finally, future studies should prioritise diverse and underrepresented populations, including military families, perinatal groups, and ethnically minoritised communities, and employ co-produced approaches to ensure that theoretical models reflect lived experiences of help-seeking.

PMH Among Military Spouses and Partners

Future studies should use qualitative methods to better understand the unique attitudes, subjective norms, and PBC beliefs among military spouses and partners. Qualitative research

may identify military-specific beliefs, cultural expectations, and barriers that are not captured by existing quantitative measures.

Additionally, while military relocations and deployments were not associated with help-seeking intentions in the empirical study, these experiences may disrupt continuity of care and social support in ways that influence service engagement rather than initial PMH help-seeking intentions. Future research could qualitatively or quantitatively explore the influence of relocations and deployments on service use, treatment outcomes, and PMH recovery. Quantitative studies could explore not only the frequency of the relocations and deployments but other factors such as the timing (e.g., within the perinatal period) or perceived impact on the family.

The findings also suggest that symptom severity in this population may not reliably influence PMH help-seeking intentions. This raises important questions about how military spouses and partners appraise and respond to psychological distress. For example, future research could explore whether PMH symptoms are normalised, minimised, or overshadowed by competing caregiving or military-related demands.

Thesis Portfolio Conclusion

This thesis portfolio examined mental health help-seeking through the Theory of Planned Behaviour and was comprised of a systematic review and meta-analysis and an empirical study of PMH help-seeking among UK military spouses and partners. Across both studies, attitudes toward help-seeking demonstrated the most consistent association with intentions across populations and contexts, including during the perinatal period. However, the strength of the effects demonstrated in the empirical study were small, and the overall explanatory power of the TPB model was limited. The explanatory utility of subjective norms and PBC was also inconsistent across the literature.

The combination of findings across two complementary studies suggest that attitudinal beliefs contribute to the formation of help-seeking intentions. However, they likely only reflect

one component of a more complex process, particularly among perinatal military spouses and partners. Overall, this portfolio contributes to the PMH and military family literatures by demonstrating that while the TPB provides a useful framework for understanding some aspects of help-seeking, it does not fully capture the complexity of PMH help-seeking among military spouses and partners. These findings support the need for broader conceptualisations and integrated, multi-factorial approaches to understanding and improving help-seeking within this population.

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Appendices

2.1 Author guidelines for the *Clinical Psychology Review*

2.2 Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) checklist

2.3 Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) abstract checklist

2.4 Search syntax

3.1 Author guidelines for *Military Psychology*

3.2 RAND Military Barriers and Facilitators to Care Item Banks

3.3 Ethics Approval

Survey

Participant Information Sheet

3. Online Consent Form

3. Debrief Form

2.1 Author guidelines for the Clinical Psychology Review

Submitting your manuscript

Manuscripts should ordinarily not exceed 50 pages, including references and tabular material. Exceptions may be made with prior approval of the Editor in Chief. Manuscript length can often be managed through the judicious use of appendices. In general the References section should be limited to citations actually discussed in the text. References to articles solely included in meta-analyses should be included in an appendix, which will appear in the on line version of the paper but not in the print copy. Similarly, extensive Tables describing study characteristics, containing material published elsewhere, or presenting formulas and other technical material should also be included in an appendix. Authors can direct readers to the appendices in appropriate places in the text.

Further details can be found at: https://www-sciencedirect-com.uea.idm.oclc.org/journal/clinical-psychology-review/publish/guide-for-authors

2.2 Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) checklist

Section and Topic	#	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	p. 14
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	p. 15
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	p. 17
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	p. 17
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	p. 22
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	p. 23
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	p. 23
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	p. 23 – 24

Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	p. 24
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	p. 25
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	p. 25
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	p. 26
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	p. 25
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	p. 25
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	p. 25
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	p. 25
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed,	p. 27

		describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	p. 27
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	p. 27
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	p. 27
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	N/A
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	p. 24 & 28
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	p. 28
Study characteristics	17	Cite each included study and present its characteristics.	p. 33
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	p. 33
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	p. 42
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	p. 29

	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	p. 36
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	p. 37
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	p. 37
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	p. 42
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	N/A
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	p. 43
	23b	Discuss any limitations of the evidence included in the review.	p. 46
	23c	Discuss any limitations of the review processes used.	p. 46
	23d	Discuss implications of the results for practice, policy, and future research.	p. 47
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	p. 19
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	p. 19
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	N/A

Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	p. 18
Competing interests	26	Declare any competing interests of review authors.	p. 18
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	p. 18

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71. This work is licensed under CC BY 4.0. To view a copy of this license, visit https://creativecommons.org/licenses/by/4.0/

2.3 Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) checklist for abstracts

Section and Topic	#	Checklist item	Reported (Yes/No)
TITLE			
Title	1	Identify the report as a systematic review.	Yes
BACKGROUND			
Objectives	2	Provide an explicit statement of the main objective(s) or question(s) the review addresses.	Yes
METHODS			
Eligibility criteria	3	Specify the inclusion and exclusion criteria for the review.	Yes
Information sources	4	Specify the information sources (e.g. databases, registers) used to identify studies and the date when each was last searched.	Yes
Risk of bias	5	Specify the methods used to assess risk of bias in the included studies.	Yes
Synthesis of results	6	Specify the methods used to present and synthesise results.	Yes
RESULTS			
Included studies	7	Give the total number of included studies and participants and summarise relevant characteristics of studies.	Yes
Synthesis of results	8	Present results for main outcomes, preferably indicating the number of included studies and participants for each. If meta-analysis was done, report the summary estimate and confidence/credible interval. If comparing groups, indicate the direction of the effect (i.e. which group is favoured).	Yes
DISCUSSION			
Limitations of evidence	9	Provide a brief summary of the limitations of the evidence included in the review (e.g. study risk of bias, inconsistency and imprecision).	Yes
Interpretation	10	Provide a general interpretation of the results and important implications.	Yes

OTHER			
Funding	11	Specify the primary source of funding for the review.	Yes
Registration	12	Provide the register name and registration number.	Yes

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71. This work is licensed under CC BY 4.0. To view a copy of this license, visit https://creativecommons.org/licenses/by/4.0/

2.4 Search syntax

("Theory of Planned Behaviour" OR "Theory of Planned Behaviour" OR "Theory of Planned Behavior" OR "Ajzen" OR "TPB")
AND
("mental health" OR "mental illness" OR "psychological difficult" OR "psychiatric disorder" OR "psychiatric illness" OR "affective disorder" OR "mental health difficult" OR "mental health condition*" OR "psychiatric condition" OR "post-trauma*" OR "PTSD" OR "depressi*" OR "anxiet*" OR "psychosis" OR "psychotic" OR "OCD" OR "obsessive compulsive" OR "schizo*" OR "suicid*")
AND
("help-seeking" OR "help seeking" OR "service utilization" OR "service utilisation" OR "service use" OR "access" OR "self-referral" OR "seek help" OR "seek treatment" OR "treatment seeking" OR "seek therapy" OR "therapy seeking" OR “counseling” OR “counselling”)

4.1 Author guidelines for Military Psychology

Style Guidelines

Please refer to these quick style guidelines when preparing your paper, rather than any published articles or a sample copy.

Please use American spelling style consistently throughout your manuscript.

Please use double quotation marks, except where “a quotation is ‘within’ a quotation”.

Please note that long quotations should be indented without quotation marks.

Further details can be found at: https://www-tandfonline-com.uea.idm.oclc.org/action/authorSubmission?show=instructions&journalCode=hmlp20

4.2 Ethics Approval

Study title: Perinatal Mental Health in Military Spouses and Partners in the UK

Application ID: ETH2425-0008

Dear Emily,

Your application was considered on 28th November 2024 by the FMH S-REC (Faculty of Medicine and Health Sciences Research Ethics Subcommittee).

The decision is: **approved**.

You are therefore able to start your project subject to any other necessary approvals being given.

If your study involves NHS staff and facilities, you will require Health Research Authority (HRA) governance approval before you can start this project (even though you did not require NHS-REC ethics approval). Please consult the HRA webpage about the application required, which is submitted through the IRAS system.

This approval will expire on **30th December 2026**.

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 FMH S-REC (Faculty of Medicine and Health Sciences 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 FMH S-REC (Faculty of Medicine and Health Sciences 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 FMH S-REC (Faculty of Medicine and Health Sciences Research Ethics Subcommittee) in advance to ensure ethical compliance. If the amendments are substantial a new application may be required.

Approval by the FMH S-REC (Faculty of Medicine and Health Sciences 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).

Please can you send your report once your project is completed to the FMH S-REC (fmh.ethics@uea.ac.uk).

I would like to wish you every success with your project.

On behalf of the FMH S-REC (Faculty of Medicine and Health Sciences Research Ethics Subcommittee)

Yours sincerely,

Katie Chambers

4.3 Survey

Screening questions

1. I am aged 18 or over
    a. Yes/No
2. My spouse is an active service member in the British Armed Forces
    a. Yes/No
3. I am a military spouse or partner, and have never been an armed forces serving personnel
    a. Yes/No
4. I am currently pregnant and/or have had a live birth in the past 24 months
    a. Yes/No
5. I am based in the United Kingdom
    a. Yes/No

If NO to any, survey end.

Demographics

6. Age
   [numerical entry]

7. Ethnicity
   a) Asian or Asian British
   b) Black, Black British, Caribbean or African
   c) Mixed or multiple ethnic groups
   d) White
   e) Other ethnic group

8. Highest education level
   a) GCSE/BTEC Levels 1-2/NVQ Level 1-2 or equivalent
   b) A Levels/BTEC Level 3/NVQ Level 3 or equivalent
   c) Certificate of Higher Education/BTEC Professional Diplomas/NVQ Level 4
   d) Foundation Degree/Diploma of Higher Education/HND
   e) Bachelors Degree/PGCE
   f) Master's Degree/Postgraduate certificate or diploma
   g) Doctoral Degree

9. Current employment status
   a) Full-time employed
   b) Part-time employed
   c) Self-employed
   d) Student
   e) Stay at home parent
   f) Retired
   g) Unemployed
   h) Other [enter]

10. Are you currently on maternity leave?
    a. Yes

b. No

10. Which country do you currently live in?
    a) England
    b) Scotland
    c) Wales
    d) Northern Ireland

11. Which county do you currently live in?
    [Drop-down of postal counties for UK]

12. Are you currently pregnant?
    a) Yes
    b) No

IF YES

13. How many weeks pregnant are you currently?
    [numerical entry]

14. Have you had a live birth within the last 24 months?
    a) Yes
    b) No

15. How many children did you have prior to the current perinatal period?
[enter figure]

16. Have you ever experienced any perinatal mental health difficulties (excluding the current perinatal period)?
    a) Yes
    b) No
    c) I'm not sure

17. Have you previously been diagnosed with any of the following mental health difficulties since becoming a military spouse/partner (outside of the current perinatal period)?
    a) Depression
    b) Anxiety
    c) Stress
    d) Psychosis (inc. schizophrenia)
    e) Post-traumatic stress disorder
    f) Adjustment disorder

Military characteristics and challenges

18. In which Armed Forces service does your partner currently serve?
    a) Royal Navy (including the Royal Marines)
    b) British Army
    c) Royal Air Force

19. What ranking is your partner?

a) Soldier (inc. private, lance corporal, corporal, sergeant, staff sergeant, warrant officer class 2, warrant officer class 1)
b) Officer (officer cadet, second lieutenant, lieutenant, captain, major, lieutenant colonel, colonel, brigadier (aka 1 star), major general (aka 2 star), lieutenant general (aka 3 star), general (aka 4 star), field marshal)

20. Do you currently live in Service Family Accommodation?
a) Yes
b) No

21. How many times have you and/or your partner been relocated due to your partner's military service?
[numerical entry]

IF 1+

22. When were you and/or your partner relocated? (Please check all that apply).
a) During a pregnancy
b) Within 24 months after a pregnancy
c) Not during a perinatal period
d) Other (please specify)

IF 1+

23. How many times has your partner been deployed during your relationship?
[numerical entry]

IF 1+

24. When was your partner deployed? (Please check all that apply)
a) During a pregnancy
b) Within 24 months after a pregnancy
c) Not during a perinatal period
d) Other (please specify)

25. Please tick the relevant box to rate how much each of these military challenges <u>impacts negatively</u> on your mental health and wellbeing during the current perinatal period (pregnancy to 24 months postnatal). If it is not relevant to you (e.g. your spouse has never been deployed, you don't live in military accommodation), please tick the 'Not applicable' box.

	Not applicable	0 = No impact	1 = Minimal impact	2 = Some impact	3 = Quite a lot of impact	4 = Big impact
Spousal deployment (e.g. actual deployment, the potential for it)						
Own employment (e.g. difficulty progressing career due to relocations, limited childcare)						
Relocations due to military service						

Lack of social support (e.g. due to moving away from family for military)						
Military accommodation (e.g. quality, location)						
Military control (e.g. military taking priority, last minute work, work-life balance, etc.)						

Access history

26. Have you ever wanted to seek help for perinatal mental health problems? (i.e., mental health problems arising during pregnancy or within 24 months after giving birth)
    a) Yes
    b) No

27. Have you ever sought support for perinatal mental health problems? (i.e., mental health problems arising during pregnancy or within 24 months after giving birth)
    a) Yes
    b) No

IF YES

28. Where have you sought support for your perinatal mental health problems? (Please check all that apply).
    a) Intimate partner (e.g., girlfriend, boyfriend, husband, wife, de facto)
    b) Friend (not related to you)
    c) Parent
    d) Other relative/family member
    e) NHS mental health professional (e.g. psychologist, counsellor)
    f) NHS midwifery professional
    g) Private mental health professional (e.g. psychologist, counsellor)
    h) Private midwifery professional
    i) Phone helpline (e.g. Samaritans)
    j) NHS doctor/GP
    k) Private doctor/GP
    l) Minister or religious leader (e.g. Priest, Rabbi, Chaplain)
    m) Other (please specify)

IF YES

29. Have you received professional psychological treatment for your perinatal mental health difficulties?
    a) Yes
    b) No

IF YES

30. In your opinion, how adequate is/was the professional psychological treatment?
    a) Very adequate
    b) Adequate
    c) Undecided
    d) Inadequate

e) Very inadequate

Mental Help Seeking Attitudes Scale (MHSAS)

31. INSTRUCTIONS: For the purposes of this survey, “mental health professionals” include psychologists, psychiatrists, clinical social workers, and counselors. Likewise, “mental health concerns” include issues ranging from personal difficulties (e.g., loss of a loved one) to mental illness (e.g., anxiety, depression).
    Please mark the circle that best represents your opinion. For example, if you feel that your seeking help would be extremely useless, you would mark the circle closest to "useless." If you are undecided, you would mark the "0" circle. If you feel that your seeking help would be slightly useful, you would mark the "1" circle that is closer to "useful."

If I had a mental health concern, seeking help from a mental health professional would be...

	3	**2**	**1**	**0**	**1**	**2**	**3**	
Useless								Useful
Important								Unimportant
Unhealthy								Healthy
Ineffective								Effective
Good								Bad
Healing								Hurting
Disempowering								Empowering
Satisfying								Unsatisfying
Desirable								Undesirable

Perinatal Mental Health Stigma (Subjective Norms)

32. We use the term ‘psychological problems’ in this questionnaire to refer to all sorts of distress mothers might experience when having a baby, for example, mood problems, depression, anxiety, trauma and obsessive-compulsive disorder. Please think of psychological problems to mean whatever you feel comfortable with. We appreciate that some questions may be of a sensitive nature, and we thank you for your honesty in helping us better understand how you are feeling.
    Please select the amount you agree or disagree with each of the following statements

	1 = Strongly disagree	2 = Disagree	3 = Agree	4 = Strongly agree
People think mothers with psychological problems will harm their babies				
People think mothers with psychological problems will harm themselves				
People think mothers with psychological problems will kill themselves				

People think mothers with psychological problems don't love their babies				
People think mothers with psychological problems can't cope with their babies				
People think mothers with psychological problems are abnormal				
I worry that if I told a healthcare provider about my psychological problems, my baby would be taken away				
I worry that if I told a healthcare provider about my psychological problems, social services would get involved				
I worry that if I told a healthcare provider about my thoughts, they would think I am an abusive mother				
I do not want people to know I have psychological problems, as they may think I'm a bad mother				

RAND Barriers and Facilitators (Perceived Behaviour Control)

33. Please indicate the degree to which you agree with each statement.

	1 = not at all	*2 = a little bit*	*3 = somewhat*	*4 = quite a bit*	*5 = very much*
I would be taken less seriously if I had mental health problems.					
If I had mental health problems, I would not seek professional help because treatment does not work.					
If I had mental health problems, I would not seek treatment because it would take time away from my children.					
If had mental health problems, I would be uncomfortable seeking professional help because people might find out about it.					
If I had mental health problems, I would be judged by others within the military community					
If I had mental health problems, it would be viewed as a sign of personal failure.					
If I were suffering from mental health problems, I would feel responsible for my problems.					
I would not be respected if I talked about my worries, fears, and problems.					
If I sought mental health treatment, members of the military community would think I am not a resilient military spouse.					
If I were having mental health problems, I would feel that I was a burden on my family or friends.					
My partner's career would be negatively impacted if I sought mental health support.					

If I were having mental health problems, I would worry about my personal problems being part of my partner's military records.					
If I were getting help from a mental health provider, my peers would think less of me.					
If I were diagnosed with a mental health problem, I would feel stigmatised.					
If I had mental health problems, people would feel awkward and tense when around me.					
If I sought mental health support, I would be concerned that the support would be stopped or interrupted mid-treatment.					

Please indicate the degree to which you agree with each statement.

	1 = not at all	*2 = a little bit*	*3 = somewhat*	*4 = quite a bit*	*5 = very much*
It is possible for people with mental health problems to recover.					
If I had mental health problems, it would be easy for me to find the time to see a professional for those problems.					
People that I am close to would support me in seeking mental health treatment.					
If I had mental health problems, I would be comfortable talking about them with a counsellor or professional.					
If friends learned that I received treatment for mental health problems, they would be supportive and understanding.					
If I had mental health problems, my family would receive good support from the military.					

Help-seeking Intention

34. In the future, if you were having a personal or emotional problem during the perinatal period (i.e., during your pregnancy and within 24 months after giving birth), how likely is it that you would seek help from the following people? Please select the number that best describes your intention to seek help from each help source that is listed.

1 = Extremely Unlikely 3 = Unlikely 5 = Likely 7 = Extremely Likely

	1	*2*	*3*	*4*	*5*	*6*	*7*
Intimate partner (e.g., girlfriend, boyfriend, husband, wife, de facto)							
Friend (not related to you)							
Parent							
Other relative/family member							
Mental health professional (e.g. psychologist, counsellor)							

Phone helpline (e.g. Samaritans)							
Doctor/GP							
Minister or religious leader (e.g. Priest, Rabbi, Chaplain)							
I would not seek help from anyone							
I would seek help from another not listed above (please list in the space provided, (e.g., work colleague. If no, leave blank) _____							

In the future, if you were experiencing suicidal thoughts during the perinatal period (i.e., during your pregnancy and within 24 months after giving birth), how likely is it that you would seek help from the following people? Please select the number that best describes your intention to seek help from each help source that is listed.

1 = Extremely Unlikely 3 = Unlikely 5 = Likely 7 = Extremely Likely

	1	*2*	*3*	*4*	*5*	*6*	*7*
Intimate partner (e.g., girlfriend, boyfriend, husband, wife, de facto)							
Friend (not related to you)							
Parent							
Other relative/family member							
Mental health professional (e.g. psychologist, counsellor)							
Phone helpline (e.g. Samaritans)							
Doctor/GP							
Minister or religious leader (e.g. Priest, Rabbi, Chaplain)							
I would not seek help from anyone							
I would seek help from another not listed above (please list in the space provided, (e.g., work colleague. If no, leave blank) _____							

Social Support

35. Read each statement carefully. Indicate how you feel about each statement.

1 = Very Strongly Disagree **2** = Strongly Disagree **3** = Mildly Disagree **4** = Neutral **5** = Mildly Agree **6** = Strongly Agree **7** = Very Strongly Agree

	1	*2*	*3*	*4*	*5*	*6*	*7*
There is a special person who is around when I am in need.							
There is a special person with whom I can share my joys and sorrows.							
My family really tries to help me.							
I get the emotional help and support I need from my family.							
I have a special person who is a real source of comfort to me.							
My friends really try to help me.							
I can count on my friends when things go wrong.							
I can talk about my problems with my family.							
I have friends with whom I can share my joys and sorrows.							
There is a special person in my life who cares about my feelings.							

My family is willing to help me make decisions.							
I can talk about my problems with my friends.							

Clinical Measures

36. Depression, Anxiety and Stress

Please read each statement and tick the box which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

	0 = Did not apply to me at all	1 = Applied to me to some degree, or some of the time	2 = Applied to me to a considerable degree or a good part of time	3 = Applied to me very much or most of the time
I found it hard to wind down				
I was aware of dryness of my mouth				
I couldn't seem to experience any positive feeling at all				
I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion)				
I found it difficult to work up the initiative to do things				
I tended to over-react to situations				
I experienced trembling (e.g. in the hands)				
I felt that I was using a lot of nervous energy				
I was worried about situations in which I might panic and make a fool of myself				
I felt that I had nothing to look forward to				
I found myself getting agitated				
I found it difficult to relax				
I felt down-hearted and blue				
I was intolerant of anything that kept me from getting on with what I was doing				
I felt I was close to panic				
I was unable to become enthusiastic about anything				

I felt I wasn't worth much as a person				
I felt that I was rather touchy				
I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)				
I felt scared without any good reason				
I felt that life was meaningless				

37. Adjustment

Finding out you are pregnant and/or giving birth can be stressful. This can have numerous consequences for our wellbeing and behaviour. Below you will find various statements about reactions these events can trigger. The 'stressful situation' referred to is finding out you are pregnant and/or giving birth in the current perinatal period. Please tick the box to indicate how often the respective statement applies to you ("never" to "often").

	Never (1)	**Rarely (2)**	**Sometimes (3)**	**Often (4)**
I have to think about the stressful situation repeatedly.	☐	☐	☐	☐
I have to think about the stressful situation a lot and this is a great burden to me.	☐	☐	☐	☐
Since the stressful situation, I find it difficult to concentrate on certain things.	☐	☐	☐	☐
I constantly get memories of the stressful situation and can't do anything to stop them.	☐	☐	☐	☐
My thoughts often revolve around anything related to the stressful situation.	☐	☐	☐	☐
Since the stressful situation, I do not like going to work or carrying out the necessary tasks in everyday life.	☐	☐	☐	☐
Since the stressful situation, I can no longer sleep properly.	☐	☐	☐	☐
Overall, the stressful situation affected me strongly in my personal relationships, my leisure activities, or other important areas of life.	☐	☐	☐	☐

38. Psychotic-like experiences

Please indicate if you have had the following thoughts, feelings and experiences in the last month, by ticking true or false. If true, please rate the level of distress this caused you. **Do not include experiences while using alcohol, drugs or medications that were not prescribed to you.**

		If TRUE: how much distress did you experience?			
		0 - None	1 - Mild	2 - Moderate	3 - Severe

I feel uninterested in the things I used to enjoy.	❑True ❑False				
I often seem to live through events exactly as they happened before (déjà vu).	❑True ❑False				
I sometimes smell or taste things that other people can't smell or taste.	❑True ❑False				
I often hear unusual sounds like banging, clicking, hissing, clapping or ringing in my ears.	❑True ❑False				
I have been confused at times whether something I experienced was real or imaginary.	❑True ❑False				
When I look at a person, or look at myself in a mirror, I have seen the face change right before my eyes.	❑True ❑False				
I get extremely anxious when meeting people for the first time.	❑True ❑False				
I have seen things that other people apparently can't see.	❑True ❑False				
My thoughts are sometimes so strong that I can almost hear them.	❑True ❑False				
I sometimes see special meanings in advertisements, shop windows, or in the way things are arranged around me.	❑True ❑False				
Sometimes I have felt that I'm not in control of my own ideas or thoughts.	❑True ❑False				
Sometimes I feel suddenly distracted by distant sounds that I am not normally aware of.	❑True ❑False				
I have heard things other people can't hear like voices of people whispering or talking.	❑True ❑False				
I often feel that others have it in for me.	❑True ❑False				
I have had the sense that some person or force is around me, even though I could not see anyone.	❑True ❑False				
I feel that parts of my body have changed in some way, or that parts of my body are working differently than before.	❑True ❑False				

39. Post-traumatic stress disorder

These questions are about problems and complaints that people sometimes have in response to stressful life experiences. Please indicate (by ticking the box) how much you have been bothered by each problem in the past month.

	1 - Not at all	2 - A little bit	3 - Moderately	4 - Quite a bit	5 - Extremely
Repeated, disturbing memories, thoughts, or images of a stressful experience from the past?					
Feeling very upset when something reminded you of a stressful experience from the past?					
Avoided activities or situations because they reminded you of a stressful experience from the past?					
Feeling irritable or having angry outbursts?					
Difficulty concentrating?					
Feeling jumpy or easily startled?					

Thank you for completing the survey.

4.4 Adapted RAND Military Barriers and Facilitators to Care Item Banks

Please indicate the degree to which you agree with each statement.

1 = not at all	*2 = a little bit*	*3 = somewhat*	*4 = quite a bit*	*5 = very much*

Original Items	Adapted Items
I would be taken less seriously if I had mental health problems.	I would be taken less seriously if I had mental health problems.
If I had mental health problems, I would not seek professional help because treatment does not work.	If I had mental health problems, I would not seek professional help because treatment does not work.
If I had mental health problems, I would not seek treatment because it would take time away from serving my unit.	**If I had mental health problems, I would not seek treatment because it would take time away from my children.**
If I had mental health problems, I would be uncomfortable seeking professional help because people might find out about it.	If I had mental health problems, I would be uncomfortable seeking professional help because people might find out about it.
If I had a mental health problem, other service members would not be very tolerant of my problems.	**If I had a mental health problem, people in the military community would judge me poorly.**
If I had mental health problems, it would be viewed as a sign of personal failure.	If I had mental health problems, it would be viewed as a sign of personal failure.
If I were suffering from mental health problems, I would feel responsible for my problems.	If I were suffering from mental health problems, I would feel responsible for my problems.
I would not be respected if I talked about my worries, fears, and problems.	I would not be respected if I talked about my worries, fears, and problems.
If I sought mental health treatment, I would be seen as weak.	If I sought mental health treatment, I would be seen as weak.

If I were having mental health problems, I would feel that I was a burden on my family or friends.	If I were having mental health problems, I would feel that I was a burden on my family or friends.
I would be given less responsibility if my chain of command knew I was seeking professional help for mental health problems.	**My partner's chances of promotion would be harmed if I sought mental health services.**
If I had mental health problems, members of my unit would have less confidence in me.	**If I were having mental health problems, I would worry about my personal problems being part of my partner's military records.**
If I were getting help from a mental health provider, my peers would think less of me.	If I were getting help from a mental health provider, my peers would think less of me.
If I were diagnosed with a mental health problem, I would feel stigmatised.	If I were diagnosed with a mental health problem, I would feel stigmatised.
If I had mental health problems, people would feel awkward and tense when around me.	If I had mental health problems, people would feel awkward and tense when around me.
It is possible for people with mental health problems to recover.	It is possible for people with mental health problems to recover.
If I had mental health problems, it would be easy for me to find the time to see a professional for those problems.	If I had mental health problems, it would be easy for me to find the time to see a professional for those problems.
People that I am close to would support me in seeking mental health treatment.	People that I am close to would support me in seeking mental health treatment.
If I had mental health problems, I would be comfortable talking about them with a counsellor or professional.	If I had mental health problems, I would be comfortable talking about them with a counsellor or professional.
If friends learned that I received treatment for mental health problems, they would be supportive and understanding.	If friends learned that I received treatment for mental health problems, they would be supportive and understanding.

If I had mental health problems, I would receive good professional care from the military.	**If I had mental health problems, my family would receive good support from the military.**

4.5 Participant Information Sheet

Titles: *Perinatal Mental Health in Military Spouses and Partners in the UK*

Main Researchers: Ashley Taylor and Emily Logan

Primary Supervisor: Dr. Joanne Hodgekins

Secondary Supervisors: Kiki Mastroyannopoulou and Dr. Jodie Finch

We are researchers at the University of East Anglia and would like to invite you to take part in this study investigating perinatal mental health in military spouses and partners. This study defines the perinatal period as the time from conception to 24 months postnatal.

The survey will take about 30 minutes to complete. You will be able to save your answers and return to the survey later if needed.

This study focuses on the challenges associated with being a military spouse or partner and how this influences perinatal mental health difficulties, and help-seeking for perinatal mental health in military spouses and partners. This study is being conducted as part of a Doctorate in Clinical Psychology qualification at the University of East Anglia and is funded by the NHS.

This information page is to help you decide if you would like to take part. Please read this page carefully. If there is anything that is not clear, or you would like to know more, please contact Ashley Taylor and Emily Logan via email at a.taylor10@uea.ac.uk and e.logan@uea.ac.uk.

What is the study about?

The perinatal period can be a difficult time for mothers and can lead to mental health difficulties. Military spouses and partners experience unique circumstances and additional challenges that may impact on their mental health during the perinatal period. However, this is currently no research into the experiences of military spouses and partners in the perinatal period in the United Kingdom. To provide the most appropriate and person-centred care for military spouses and partners, we must first understand their experiences and what might help or hinder help-seeking.

Why am I being asked to take part?

You have been asked to take part in this study because you are a military spouse/partner associated with the British Armed Forces, aged over 18 years, and are currently in the perinatal period (pregnancy and up to 24 months postnatal).

Do I have to take part?

No, you do not have to take part in this study. If you decide that you do not wish to take part this will not affect your employment or legal rights in any way. Please close your browser.

What will the study involve?

If you decide to take part in the research, you will be taken directly to the survey at the end of this page. This will explore what military challenges you feel impact on your mental health, help-seeking behaviours, barriers and facilitators to accessing care, and your experience of mental health difficulties during the current perinatal period. Your answers will help us to understand the experience of perinatal mental health difficulties in military spouses and partners, and the barriers and facilitators to accessing care for this.

What will happen if I decide not to continue with the study?

That is fine and it will not affect you in any way. If you wish to leave the study, please close the browser at any time and any incomplete responses to the survey will be destroyed. As the survey is anonymous, you will be unable to request withdrawal of your data after completion of the study.

What are the potential disadvantages of taking part?

Due to the nature of the research, some of the questions in this study may be distressing. The survey will ask about your experience of various mental health difficulties, which may involve asking you to think about difficult experiences or feelings. If you feel that this may cause you distress and do not wish to take part, please exit the browser.

What are the potential benefits of taking part?

There is no guaranteed benefit to participating in this study. By taking part in the study you will be helping us to understand the experiences of military spouses and partners in the perinatal period in the United Kingdom. This will help to inform care and support for this military families.

Will my data be kept confidentially?

All privacy laws and procedures will be followed during the study. Information collected from you during the study will be kept confidential and safe. Only members from the research team will have access to your data. Electronic data will be stored on a secure Microsoft OneDrive shared between the lead researchers and supervisors. None of the information that you provide us will be attached to your name, and the results from the study will not be linked to any identifiable information. When the study has finished, your data will be stored anonymously within the University for at least 10 years for the purposes of future research. If you decide to be entered into the prize draw at the end of the survey, you will be required to enter your email address. This will be stored separately from your survey responses, maintaining anonymity for your survey response. On completion of the prize draw, email addresses will be deleted.

Who has approved this study?

The project has been reviewed and approved through the University of East Anglia Faculty of Medicine and Health Sciences Research Ethics Subcommittee.

What will happen to the results of the study?

The results from the study are likely to be published into an academic journal. Nobody who takes part in the study will be identifiable.

What if there is a problem?

If you have any concerns about any aspects of the research, you can contact any of the research supervisors Dr. Jodie Finch (jodie.finch@nsft.nhs.uk), Dr. Joanne Hodgekins (j.hodgekins@uea.ac.uk) or Kiki Mastroyannopoulou (K.Mastroyannopoulou@uea.ac.uk).

How do I find out more?

If you would like further information, please contact Trainee Clinical Psychologists Ashley Taylor and Emily Logan via email at a.taylor10@uea.ac.uk and e.logan@uea.ac.uk.

What happens next?

If you decide to take part in the study, please read the consent statements below and tick the boxes to provide your consent to participate. On completion of these, you will be automatically taken to the study. If you do not wish to participate in the study, please close the browser.

Thank you for reading this information.

4.6 Online Consent Form

Please tick the boxes to confirm:

I have read and understood the information provided and have had the opportunity to ask questions.	☐
I understand that my taking part in this study is voluntary and that I can withdraw at any point during the survey, and it will not affect me. I understand that I will be unable to withdraw my data once I have completed the survey.	☐
I consent to the storage and processing of my personal information for the purposes of this and future research studies. I understand that such information will be treated as strictly confidential and handled in accordance with the Data Protection Act 1998.	☐
I give my consent to take part in the above study.	☐

4.7 Debrief Form

Titles: *Perinatal Mental Health in Military Spouses and Partners in the UK*

Thank you for taking part in this study, we appreciate the time you have spent answering these questions. Your information will help us to understand the challenges associated with being a military spouse or partner and how this influences perinatal mental health difficulties, and the barriers and facilitators of help-seeking for perinatal mental health in military spouses and partners.

If you have any questions or concerns about the study, or you would like to receive a summary of the findings, please contact Ashley Taylor and Emily Logan via email at a.taylor10@uea.ac.uk and e.logan@uea.ac.uk.

The results of the study may be shared as publications in academic journals, presentations at research conferences, and project reports for associated services and funders.

Some of the questions in this survey may have been difficult to think about or caused you distress. If this is the case, or you are struggling with your mental health, please see the below resources:

- Your GP
- Hub of Hope - https://hubofhope.co.uk/
- Samaritans - 116 123 https://www.samaritans.org/
- SHOUT - 85258
- Mind - https://www.mind.org.uk/information-support/
- The following link will take you to the NHS website and provides an extensive list of available support resources: https://www.nhs.uk/conditions/stress-anxiety-depression/mental-health-helplines/
- If you feel you need urgent mental health support or are in crisis, you can call NHS 111 or follow the link below:

https://www.nhs.uk/using-the-nhs/nhs-services/mental-health-services/where-to-get-urgent-help-for-mental-health/

If you have any problems or complaints about the study, please contact any of the research supervisors, Dr. Jodie Finch (jodie.finch@nsft.nhs.uk), Dr. Joanne Hodgekins (j.hodgekins@uea.ac.uk) or Kiki Mastroyannopoulou (K.Mastroyannopoulou@uea.ac.uk).

Thank you again for taking the time to complete this research.

If you would like to be entered into the prize draw for one of the two £20 Amazon Vouchers, please follow the link below and enter your email address. Email addresses will be stored securely in line with privacy laws and will not be linked to your survey response. Email addresses will be deleted after the prize draw is completed.

https://app.onlinesurveys.jisc.ac.uk/s/uea/survey-prize-draw