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Using UCAS MEM for Contextual Offers

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Contextual admissions schemes are commonly used across the United Kingdom (UK) for admission into higher education (HE) institutions. These schemes consider an applicant's background and circumstances alongside academic achievement to provide a fairer evaluation of progression into university. Several contextual factors have been considered by HE providers and few have been evaluated in the literature. However, the University and Colleges Admissions Service (UCAS) Multiple Equality Measure (MEM), introduced in 2018, is yet to be evaluated in contextual admissions schemes. This study evaluates the use of UCAS MEM data for contextual admissions at one mid-sized UK institution using a difference-in-differences framework and institutional data on applications for academic years 2021/22 and 2022/23. We found that the introduction of contextual offers, using UCAS MEM data, reduced the likelihood that applicants declined their offer. Applicants were more likely to place the offer from the university as their insurance option. This suggests that the contextual offer increased the appeal of the institution as a solid insurance option, with a marginal increase in probability of study at the institution. Caution is needed when implementing a contextual admissions policy based on UCAS MEM. University policies should consider alignment with their Access and Participation Plan (APP) objectives and commitments, and to ensure applicants understand the basis on which they may be offered a contextual offer.

1 | Introduction

The English higher education (HE) sector is unique in that it operates in a pre-results application system; that is, students apply for their place at university before knowing the outcome of final examinations. It is described in the literature as a system that can compound existing educational disadvantage (Campbell et al. 2022; Dilnot, Macmillan, and Wyness 2023; Wyness et al. 2022; Wyness and Murphy 2020). Within HE, increasing regulatory framework requires institutions to be proactive in closing access gaps between the most and least advantaged students. Access and Participation Plans (APPs) were introduced by the Office for Students (OfS), the UK University's regulatory body, for HE providers to set out their plan to improve equality of opportunity for underrepresented groups to access, succeed

in and progress from HE (University and Colleges Admissions Service 2018a). As admissions form part of broader institutional equality, diversity, and inclusion strategies, it is through APP commitments that universities and colleges plan to ensure admissions processes do not disadvantage applicants and actively seek to address any access gaps related to students with protected characteristics.

In recognition of a persistent socio-economic gap in school achievement (Agasisti and Maragkou 2022; Gorard et al. 2019; Strand 2021), and to meet the ambitious widening access targets set by the OfS, many universities across the UK now offer contextual admissions schemes as one way to provide equal opportunities for applicants from all backgrounds. In this sense, contextualisation means that universities use data and

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information to help them understand the context of the applicant (Mountford-Zimdars and Moore 2020; Mountford-Zimdars, Moore, and Graham 2016). Contextual admissions policies reflect that ‘equal examination grades do not necessarily represent equal potential’ (Schwartz 2004, p. 5). While there are arguments against contextual admissions policies based on reducing entry requirements, these potential risks are ‘a modest reduction in rates of degree completion and a more substantial reduction in rates of higher degree classifications awarded’ (Boliver et al. 2021, p. 12). Noteworthy, Boliver, Gorard, and Siddiqui (2021) suggest that these risks can be ameliorated in the provision of tailored support for students coming into HE with contextual offers.

A growing body of research has shown that applicants who have experienced disadvantage and who are admitted with lower Level 3 qualifications from school (typically Advanced Levels (A-Levels) or Business and Technology Education Council (BTECs) within the UK, taken at age 18) achieve to the same, and better than, their more privileged peers (Croxford et al. 2014; Hoare and Johnston 2011; Jones et al. 2017; Taylor et al. 2013). Within these studies, and across institutions, a wide range of contextual factors have been considered for use in contextual admissions schemes. For example, having been a care leaver or care experienced, or having caring responsibilities, living in neighbourhoods with low historical participation in HE (defined by the Participation of Local Areas, Version 4 dataset (POLAR4) quintile 1 or 2 areas), living in or attending a school in an area with significant indicators of deprivation (defined by Index of Multiple Deprivation (IMD) quintile 1 or 2 areas), living in CACI Acorn quintiles 4 or 5 (a location based measure to classify neighbourhoods by affluence), attendance at a school with an Attainment 8 score below the national average (pupil performance in compulsory exams taken at age 16 (GCSEs)), having asylum seeker or refugee status, being classified as a mature student, having declared a disability, being estranged from family, being the first generation in the family to attend higher education, and being eligible for the University Clinical Aptitude Test (UCAT) bursary (medicine specific). Some universities note that each application is looked at on an individual basis and that other personal circumstances that may have disrupted or adversely affected an applicant’s education and/or achievement are also considered. It has been argued that verified individual level metrics should be used to identify contextually disadvantaged learners (Boliver, Gorard, and Siddiqui 2021), rather than area-based or school characteristics (Gorard et al. 2019).

In 2018, the centralised application service in the UK, University and Colleges Admissions Service (UCAS), introduced the Multiple Equality Measure (MEM) as their principal measure of equality and to identify level of disadvantage amongst applicants (University and Colleges Admissions service 2018b). A second version (MEM2) was published in 2021, which included Free School Meals (FSM) data. University and Colleges Admissions Service (2023c) defined MEM as bringing ‘together information on several equality dimensions for which large differences in the probability of progression into higher education exist—including sex, geography, ethnic group, secondary education sector and income background—and combines their effects into a single measure’. They used

statistical modelling techniques to combine these equality dimensions and link datasets. From this analysis, MEM groups were formed, where Group 1 included those least likely to enter HE, and Group 5 included those most likely to enter HE (University and Colleges Admissions Service 2023c). This measure is provided to institutional admissions teams separately from the core UCAS application and requires joining to this main dataset by each institution. The MEM has been designed to be a proxy measure for admissions services to use in place of a wide range of criteria, without consideration of different institutional settings or published commitments in APPs. The 2022 UCAS end of cycle report (2023a) suggested that progress on closing widening participation (WP) gaps stalled across multiple dimensions including MEM, despite several institutions introducing contextual admissions policies (Jordan 2023). Whilst MEM can provide insights into the circumstances regarding an applicant’s background, the use of MEM data for contextual admissions schemes has not yet been evaluated. In this paper, the WP characteristics we consider are Black and Minority Ethnic backgrounds, FSM eligibility, Mature students and POLARQ1 or 2 postcodes.

Within the pre-results main application cycle, universities provide offers to applicants, stating that if they meet grade requirements of the offer, they will be guaranteed a place to study. The applicant can submit three responses: decline the offer, firm the offer, or place the offer as insurance. Firm choices indicate the applicant’s preferred offer of study, whereas insurance options are the second best and tend to be a lower grade offer profile than their firm choice. ‘Confirmation and Clearing’ follows the main cycle. During this period, exam results are released to universities and offers are either turned unconditional or rejected (University and Colleges Admissions Service 2024). Clearing can play an important role in the University admissions process. Applicants who did not meet either their firm or insurance offer or who would like to study elsewhere contact universities directly to seek a place. Therefore, to understand the effectiveness of the contextual admissions policy, there must be consideration for what happens during clearing.

Given the newness of the MEM criteria, and the subsequent absence of evaluation reviewing the use of UCAS MEM2 criteria for contextual admissions, the current study used a single case of one English university to answer the following research questions:

1. Who was made a contextual offer using the UCAS MEM2 criteria?
 - a. How do UCAS MEM2 scores and applicants admitted correlate with WP characteristics?
 - b. Was using UCAS MEM2 successful in increasing the intake of WP students?
2. How does the intake from the 2022/23 contextual admissions policy contrast with the intake from 2022/23 Clearing?

Research question (2) considers Clearing as an important dimension of the university’s admissions cycle and how it might be important to consider what happens during Clearing for an effective contextual offer policy. The institutional context is detailed below.

1.1 | Institution Context and Policy

The setting for the study is a mid-sized, mid-ranked English University where the authors had access to the internal administrative data required for the research. The focus on one institution is to provide a case study of the use of UCAS MEM for the purpose of contextual offers. To the best of our knowledge, we are not aware of published evaluations using UCAS MEM by other universities for making contextual offers, thus our study can provide unique insights about the effectiveness of the tool for the purpose of contextual admissions.

The selected University has operated a localised contextual admissions scheme for several years. The localised scheme was designed for students who participated in a university run multi-intervention outreach project or who attended a local college or sixth form with whom the University had a partnership agreement. A nationwide scheme was introduced for admissions cycle 2022/23, for entry in the Autumn of 2023. The motivation for the introduction of a broader contextual admissions policy was to close access gaps as outlined in the University's APP.

The national scheme used UCAS MEM2 scores to identify students from disadvantaged backgrounds who would be eligible for a contextual offer during the main application cycle (thus excluding applicants who applied through clearing). Multiple Equality Measure 2 was selected for use as it combined multiple measures into a single score based on a UCAS assessment of the relative impacts of each factor on representation in HE. This methodology was specifically designed to consider intersectionality within these pre-existing measures. Prior to 2022/23 no contextual offers were made based on UCAS MEM2 or any other specific indicator, contextual offers were made solely based on participation in multi-intervention outreach projects or through local agreements.

The scheme targeted students in MEM2 Groups 1 (G1) and 2 (G2) as these students accounted for the students who faced the greatest barriers to accessing HE and consequently had lower HE participation rates. Specifically, MEM2 G1 and G2 were included to capture a wider proportion of the students who fall into POLAR4 Q1, a key target of the University's APP. Due to the lack of mapping provided by UCAS from MEM2 to POLAR4, POLAR3 was used as a substitute metric and compared with a modelled POLAR4 value from the University's internal data. Multiple Equality Measure 2 G1 included approximately 58% of POLAR3 Q1 learners (University and Colleges Admissions Service 2023c). Expanding to include MEM2 G2 increased this reach to 87.5% of POLAR3 Q1 learners (University and Colleges Admissions Service 2023c), allowing the University to be confident this group would reach most target applicants.

Due to the challenges of producing differential offers for students holding mixed qualifications, the University included only A-Levels or BTEC Level 3 Extended Diploma qualification in the contextual admissions policy. If an applicant was categorised as MEM2 G1 or G2, they received an offer two grades below the standard baseline for A-Levels and one grade below for BTEC qualifications. Medicine and foreign language courses were exempt, as there was an identified need for a specific pre-entry attainment level in a particular subject.

There were two unique components of using UCAS MEM2 in this University setting, which constitutes a natural quasi-experimental environment. Firstly, the scheme was not widely advertised by admissions and recruitment teams. As this was a trial scheme, the University only included contextual admissions information within the admissions policy and on a dedicated webpage, rather than within the prospectus. This allowed flexibility in the application of contextual offer making throughout the cycle and a review as to its effectiveness during confirmation. Secondly, applicants were unaware of their MEM2 group and so were unable to check their eligibility for the contextual offer. This was due to the lack of technical documentation of the MEM2 algorithm provided by UCAS, and unwillingness by UCAS to produce a modelling tool. Therefore, it is likely that prior to applying to the institution, applicants would not expect to receive a reduced grade offer, nor could they manipulate their MEM2 score to become eligible. The contextual offer scheme should therefore not alter application behaviour and instead isolate the impact of the offer only.

Whilst the quasi-experimental setting is useful for our purposes in evaluating the impact on applicant behaviour, the limited promotion of the scheme could imply a negative self-selection in applications. More concretely, potential applicants who would have been eligible for the contextual offer may not have applied due to the higher advertised grades relative to their predicted performance as the contextual admissions scheme was not actively promoted. This raises the question of whether advertising and promoting this differential admission criteria would increase applications from WP backgrounds and counteract a potential negative selection we could see in our current setting. This is an important dimension when considering the impact of contextual admissions, but is beyond the scope of this paper. Our focus will be on applicants that received the contextual offer and how they responded to rather than changed their initial application behaviour.

Whilst the study focuses on one university, there are still valuable insights to be gained. Our unique setting allows us to get closer to estimating the causal impact of the contextual offer. Our research can provide insights for both higher and lower tariff universities, as we look at how applicant behaviour changes depending on the offer they receive versus their performance and expectations. This could prove challenging in other settings. For example, where applicants are selecting into applying for the university based on receiving the contextual offer, creating a self-selection issue for causal identification. The data required to study such policies can be challenging to access given its sensitive nature, as such, there are ethical considerations when thinking about data sharing as the data may be deemed 'business sensitive' by universities.

2 | Data and Methods

2.1 | Data

We used administrative data on all applicants to the university for admissions cycles 2021/22–2022/23.¹ Table 1 summarises the key variables across the two admissions cycle datasets, such as student demographics, and offer status for the universe of applications for undergraduate study. The table shows two panels; Panel (a) presents summary statistics of our

TABLE 1 | Summary statistics.

	2021/22 Cycle (1)	2022/23 Cycle (2)	<i>p</i> -value of <i>t</i> -test (3)
Panel (a): Main sample of applicants for eligible courses with eligible qualifications (with offer to study)			
Female	53.6%	54.7%	0.2102
Free school meal	0.19%	7.9%	0.0000
Black, Minority Ethnic	21.2%	5.02%	0.0000
POLAR4 Q1	9.9%	10.2%	0.5076
Care Leaver	0.16%	0.63%	0.0000
Mature	0.29%	0.2%	0.6188
Share who firmed offer	19.32%	21.13%	0.0092
Share who chose insurance offer	13.79%	17.74%	0.0000
MEM Group 1/2	11.89%	14.1%	0.0002
Share with contextual offer	—	12.3%	
Number of applications	7471	6015	
Panel (b): All applications to university			
Number of applications	20,520	17,869	
Share of applications exempt due to course	18.5%	20.9%	
Share of applications exempt due to mixed quals.	54.12%	52.43%	
Share of applications from clearing	< 10%	< 10%	0.0000
International applicants	20%	15.6%	0.0000
MEM Group 1/2	9.99%	13.26%	0.0000
Share with offer made	78.76%	78.47%	0.4128
Share who firmed offer	< 35%	< 35%	0.0000
Share who chose insurance offer	< 20%	< 20%	0.0000
Share with contextual offer	—	6.91%	

Note: Some shares are suppressed due to their sensitive nature at the request of the university. Panel (a) presents summary statistics for applicants to eligible courses who do not have mixed qualifications so would be eligible for a contextual offer based on qualification. Panel (b) presents summary statistics on all applicants to the university. Columns (1) and (2) show the means for the respective cycle and Column (3) is the *p*-value from a *t*-test of the difference in means.

core sample, which is used in the regression analysis. As the contextual offer was only available to applicants of certain courses and with a single qualification type (either A-Levels or BTECs but not mixed), our main results utilise the sample of applicants who applied to an eligible course with eligible qualification and received an offer. This is in contrast to Panel (b), which presents an overview of the total applicant profile to the university; again, disaggregated by cycle. Columns (1) and (2) show the respective means for each admissions cycle and Column (3) reports the *p*-value of a *t*-test for the difference in means.

Focusing on Panel (b), which considers all applications, we observe a similar profile of applicants across admissions cycles. The share of applicants receiving any type of offer remained stable at over 78%. Due to the COVID-19 Pandemic (2020–2023), A-Level assessments were marked to different standards and grade profiles. The current study did not account for this variance as the University's admissions policy and approach did not change during this period.

During the 2022/23 cycle, 6.91% of all offers made were contextual. In contrast, contextual offers for eligible courses were only 6.5% of total offers made. Turning to Panel (a), when we focus in on our eligible applications, 12.3% of offers made were contextual. Further focusing on Panel (a), we observe some important differences in WP criteria, most notably the difference in Black and Minority Ethnic students. However, inspection of the data shows that these students are more likely not to qualify for a contextual offer due to having a mixed qualification profile. Importantly, we see no difference in the share of applicants from POLAR4 Q1, a key target for APP activities.

2.2 | Methods

A difference-in-differences (DiD) approach (see Roth et al. 2023 for a survey of recent literature) was used to estimate the impact of the contextual admissions policy (Research question 1) by comparing the changes in outcomes over time between a treatment group and a control group. The main idea is to observe the difference in

outcomes before and after the intervention for both groups and then subtract the change observed in the control group from the change observed in the treatment group. This approach helps to control for unobserved confounding variables that might affect the outcome, assuming that these variables influence both groups similarly over time. By focusing on the relative changes between groups, the DiD approach accounts for time trends and time-invariant factors that might bias simple before-and-after comparisons, providing a more robust estimate of the intervention's impact.

In our data, we can define a control and treatment group for our two time periods with a treated group in the second period identified by applicants who were in MEM2 G1 and G2, and who applied for an eligible course with eligible qualifications. The 2021/22 admissions data act as a control group for the 2022/23 cycle, where the contextual admissions policy was in place. We compare the differences in outcomes for MEM2 G1 and G2 across the two cycles with MEM2 G3-G5. The policy should have no impact on the outcomes or behaviours of students not directly targeted for a contextual offer. As a starting point, we restricted our sample to the universe of applicants that met the eligibility criteria in terms of course and qualifications as discussed in Section 1.1.

We estimated a linear probability model using the DiD framework, where we have two time periods and a treated (MEM2 G1 and G2 who received the contextual offer) and non-treated group (MEM2 G3-G5 who received the regular offer), our estimation strategy is formalised in Equation (1):

$$y_{i,t} = \beta_0 + \beta_1 CO_i + \beta_2 Cycle_t + \beta_3 CO_i \times Cycle_t + X_i' \tau + \varepsilon_{i,t}, \quad (1)$$

where the dependent variable, $y_{i,t}$, is the decision of applicant i in cycle t , including their offer response as well as whether the applicant ultimately ended up studying at the institution. X_i is a vector of individual controls such as gender, Black, Minority Ethnicity, FSM recipient, POLAR4 quintile, local student as defined as living in the county of the University and course applied to. CO_i is a binary indicator equal to 1 if the applicant received a contextual offer and zero otherwise. Our parameter of interest is β_3 , which is the interaction between the cycle and being in MEM2 G1 or G2 and therefore being eligible for the contextual offer as denoted by CO_i . The DiD parameter, (β_3) , is the difference between the change in outcomes before and after the treatment (receiving the contextual offer) in the treatment and control group and is the parameter we report in the results. This gives us our average treatment effect of the policy on the treated and is estimated using ordinary least squares.

There are several assumptions underlying the credibility of our estimation strategy. Firstly, that being allocated to the intervention, that is, receiving the contextual offer, is unrelated to the outcome at baseline. This holds in our case as the receipt of a contextual offer is independent of outcomes at baseline and is determined solely by UCAS MEM2 group. Secondly, there is no spillover between the treatment and control groups. The fact that applicants from MEM2 G1 and G2 received a reduced offer should not impact the behaviour of applicants from MEM2 G3-G5. The way the policy was implemented implies that there are no anticipation effects. Fundamentally, for there to be a credible control group in this quasi-experimental setting for the applicability of

the DiD framework, we need the profile of applicants to be stable across cycles. This is supported by Table 1, which shows that the applicants in both the 2021/22 and 2022/23 admissions cycles have similar characteristics. In turn, this supports that there were no changes in application decisions from the policy. The most important underlying assumption of our estimation strategy are parallel trends in outcomes for the treatment and control group. That is, in the absence of the treatment, the behaviour in both the treatment and control group would evolve in the same way over-time. We are unable to test this assumption without additional years of data prior to the introduction of the policy.

3 | Results

3.1 | Who Received a Contextual Offer?

Figure 1 shows the share of offer holders by WP criteria who received either a regular offer or a contextual offer. This considers all offer-holders regardless of their course or qualification eligibility from the 2022/23 admissions cycle. More than 60% of contextual offer holders were from POLAR4 Q1, versus <20% of regular offer holders. There are similar differences for applicants who received FSM. These observed differences are expected given that the key inputs into calculating UCAS MEM2 include FSM status and postcode. The share of contextual offer holders with Black, Minority Ethnic backgrounds is similar to regular offer holders, a third of applicants. Noteworthy, a limited number of mature applicants received a contextual offer ($n < 5$). Yet, these demographics are not mutually exclusive; there is an element of intersectionality which should be considered when looking at the applicant profiles. However, to a certain extent, the role of MEM2 is to recognise the relationship between various demographics, increasing the likelihood that an applicant is from an underrepresented background.

Each grade profile for predicted, offer, and achieved grades was assigned a numerical value. This allowed us to capture the distance, or the difference in grades, between the various grade profiles. As such, we were able to review the performance of students relative to predicted and actual performance in relation to the offer they received. Firstly, we focus on the distance between offer grade profile and applicants' predicted performance. Figure 2 presents a histogram of this distance measured

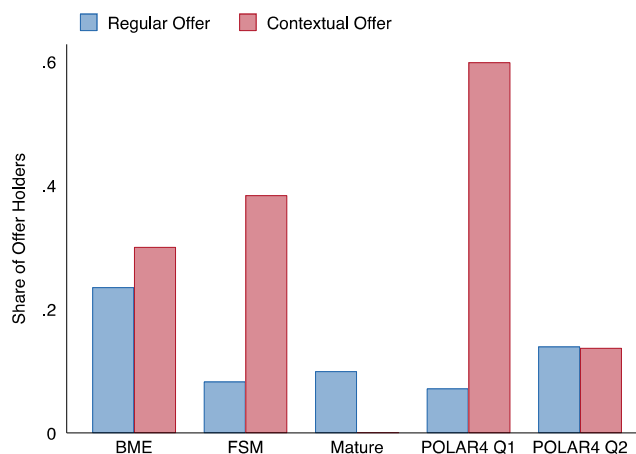


FIGURE 1 | Share of offer holders by offer type and WP characteristic.

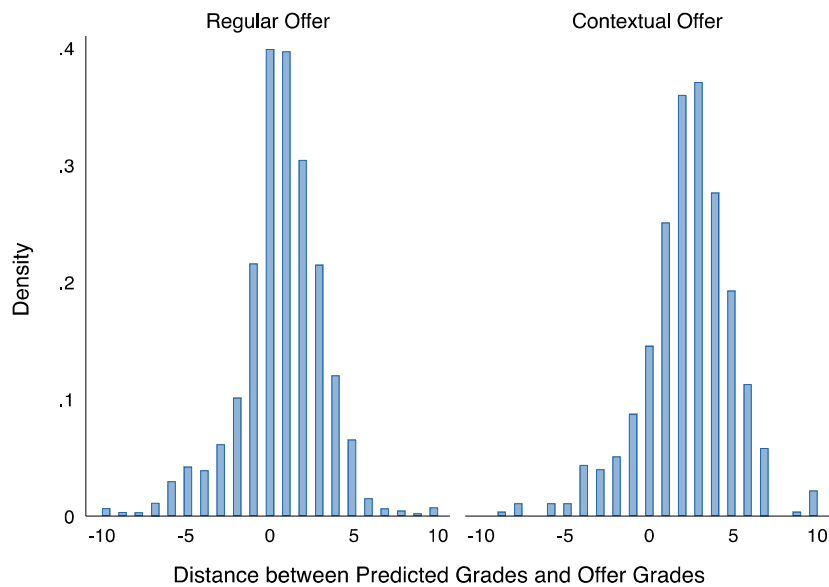


FIGURE 2 | Histogram of distance between predicted and offered grades.

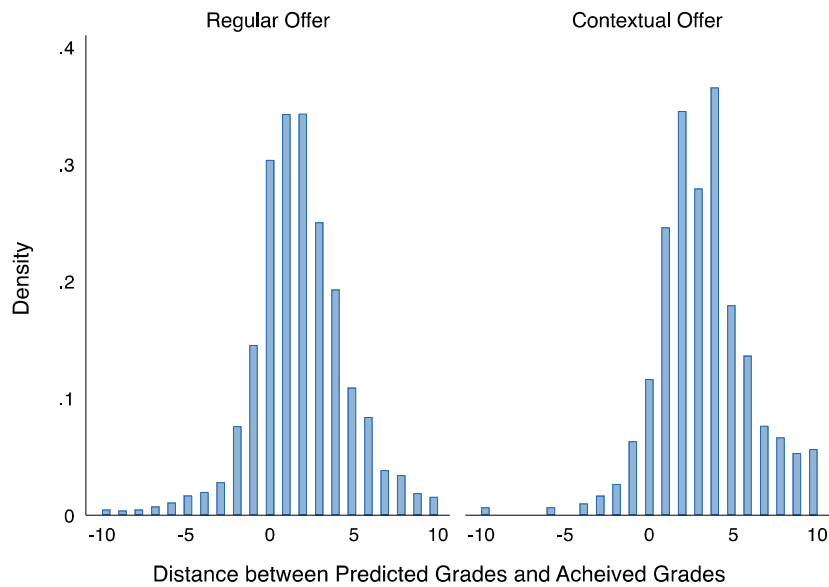


FIGURE 3 | Histogram of distance between predicted and achieved grades.

by whether the applicant received a regular or contextual offer for the sample of applicants who had eligible qualifications and had applied for an eligible course. Where the difference is zero, the grade profiles are the same. That is, the offer grade profile was the same as the predicted grade profile. A positive value indicates that the predicted grade profile was higher than the offer and a negative value indicates that the offer is higher than the predicted grades. Focusing firstly on the left panel, the distance follows a normal distribution, with most applicants meeting or exceeding their offer by one grade.² By contrast, in the right panel we observe more of a tail to the left, with most applicants' predicted grades exceeding their offers by two or more grades.

These results support the hypothesis that there was no difference in the make-up of applicants following the introduction of the contextual admissions policy. This is as expected given the policy was not promoted to prospective applicants, resulting in

the inability to anticipate receiving a reduced contextual offer.³ If applicants had responded to the policy, we would expect to see a more normal distribution around zero for contextual offer applicants' distance between predicted and offer grades.

In sum, this figure suggests that applicants who received a contextual offer were more likely to be applicants who received FSM or applicants from a POLAR4 Q1 background but are academically predicted to perform as well as the regular offer applicants. Therefore, these applicants received offers substantially lower than (i) they might have expected and (ii) their predicted grades.

A natural question then arises: Is the contextual offer going to students who need it? In Figure 3, we show the distance between the predicted and actual grades. The right-hand panel shows the distance between predicted and actual grades for contextual offer holders. These students appear to be more likely to meet

or exceed their predicted grades compared to the regular offer holders as shown on the left, where the distribution appears to be more normal. This may suggest that the contextual offer might not be needed for these students. Focusing on the 2022/23 admissions cycle, 53% contextual offer holders, regardless of their response to the offer, met or exceed their offer from the University, compared to 37.88% of regular offer holders. This, taken together with Figure 2, suggests that the contextual offer is perhaps not targeting applicants that would benefit the most from the reduction in offer.

3.2 | Did Contextual Offers Increase the Share of Widening Participation Students?

Upon aggregately inspecting whether there were any differences in the composition of the intake across the two admissions cycles, we identified applicants who were assumed to progress to study at the University as those who had unconditional firm status. Looking at Figure 4, we observe that there was little change in the intake profile across WP characteristics. Here, we plot the share of unconditional firm applicants on all courses. The aim of the policy was to meaningfully increase the WP intake. Instead, we observe a decline in the share of applicants who received FSMs and a slight increase in the share of unconditional firm offer holders from Black, Minority Ethnic backgrounds. For mature and POLAR groups, we see negligible differences. This suggests that the contextual admissions policy failed to increase

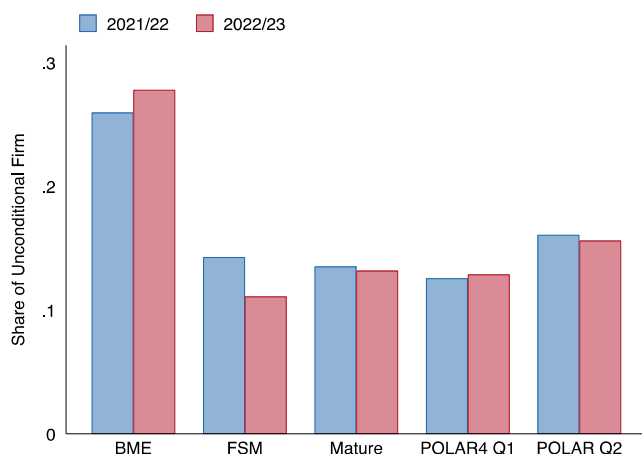


FIGURE 4 | Demographics of intake across admissions cycles.

the representation of WP students at an undergraduate level as intended.

We formally estimated the impact of the contextual admissions policy using the estimation strategy outlined in Section 2.2. We explored whether there was an increase in the share of WP students who progressed to study at the university following the introduction of the policy. Further, we explored possible mechanisms through which the policy might have had an impact.

The impact of the contextual admissions policy is summarised in Table 2, where the main findings of the estimation of equation (1) are presented. Considering four outcomes of interest in turn; Column (1) presents the results where the dependent variable is whether the offer-holder eventually went on to study at the university.⁴ Columns (2)–(4) present other possible outcomes for offer holders, and to a certain extent can aid in understanding how the contextual offer changes applicant behaviour in response to the reduced offer. Column (2) considers the case where the offer holder declines the offer. Columns (3) and (4) consider where the offer holder decides to firm or select the offer for their insurance, respectively.

Table 2 presents the coefficient of interest from equation (1), β_3 . Looking at Column (1), the dependent variable is a binary outcome of whether the applicant went on to study at the University. The coefficient here is statistically significant at the 1% level and suggests that applicants that received the contextual offer were 4.6% more likely to study at the institution compared to applicants that received the regular offer.

Columns (2)–(4) highlight a possible mechanism through which students are more likely to end up studying at the university with a contextual offer. Firstly, Column (2) refers to the likelihood that the applicant will reject the offer. Receiving a contextual offer reduces the probability that the applicant will reject the offer by over 12%. However, Columns (3) and (4) suggest that the reduction comes from a greater share of applicants choosing to respond to the offer as their insurance choice. The coefficient on contextual offer in Column (3), where the dependent variable is whether the applicant ‘firms’ the offer is statistically insignificant. Furthermore, the magnitude of the coefficient is negligible, suggesting that receiving a contextual offer did not impact an applicants’ decision to ‘firm’ the offer. Thus, the biggest impact appears to be on the likelihood of selecting the offer as their insurance choice, with contextual offer applicants around 10%

TABLE 2 | Difference-in-differences results.

	(1)	(2)	(3)	(4)
	Study	Decline	Firm	Insurance
Contextual offer X cycle (β_3)	0.0463 (0.0224)**	-0.127 (0.0263)***	0.0241 (0.0230)	0.102 (0.0200)***
Constant	0.228 (0.0488)***	0.564 (0.0558)***	0.276 (0.0526)***	0.160 (0.0440)***
<i>N</i>	12,421	12,384	12,384	12,384
<i>R</i> ²	0.062	0.059	0.080	0.030

Note: Standard errors in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ Controls include Black, Minority Ethnic, Female, FSM, POLAR4 Quintile, Mature, Care Leaver, Local Student, Admissions Cycle and Course applied for. The sample is applications received outside of clearing who received an offer for an eligible course and had eligible qualifications. Columns (2)–(4) are based on the sample of applicants who responded to the offer.

more likely to respond by choosing insurance. In our data, we were unable to observe what other offers the student held, but results suggest that the applicants receiving the contextual offer did not necessarily need it.

3.2.1 | Heterogeneity Analysis

Table 3 partitions the data into three groups based on the offer and predicted grade relationship. Panel A considers the group of applicants whose offer is higher than that of their predicted grades by more than one grade distance. Panel B considers the group of applicants where the predicted grades and offer criteria are the same or within one grade of each other. Finally, Panel C considers the applicants for whom the offer was substantially lower than their predicted grades. This analysis allows further exploration into the relationship between the predicted performance and offers in applicant decisions, which can help to understand how the policy is working to increase the share of WP students and whether the policy is targeting the students that would benefit the most from the policy.

In Column (1), the outcome of interest is whether the applicant became ‘unconditional firm’, which we use to indicate that the applicant likely went on to enrol and study at the University. For offer holders with a higher offer than predicted grades, those who received a contextual offer are more likely to end up at the University versus not receiving the reduced offer. Looking at Columns (3) and (4), this is due to these applicants being marginally more likely to ‘firm’ in their decision to the University.

This contrasts with offer holders that are meeting or exceeding their offers based on the predicted grades as presented in Panels B and C. These offer holders were more likely to respond as ‘insurance’ by 12% and 10% respectively, which is significant at the 1% level. For offer holders, receiving the contextual offer does not have a statistically significant effect on attending the University where the offer is more than one grade lower than their predicted grades. There is no statistically significant effect on the applicant deciding to ‘firm’ their offer for those exceeding or meeting offers. We see a 7% increase in the likelihood of ‘firm’ at the 10% significance level only for those whose offer is greater than their predicted grades by more than one.

3.3 | How Do Contextual Offer Holders Compare to Clearing Applicants?

For many universities, Clearing forms a substantial part of the admissions process. Figure 5 plots the share of each of unconditional firm offer holders by each entry type and WP characteristic for all courses. Focusing on the green bar in Figure 5, the Clearing entry type, we see that more than 40% of entrants through clearing are from Black, Minority Ethnic backgrounds, 10% FSMs, 8% mature and around 10% are from POLAR4 Q1. These magnitudes are not dissimilar to the regular offer route except for entrants from Black, Minority Ethnic backgrounds and FSMs, with a greater share of students from these backgrounds coming through Clearing. Entrants through the contextual offer scheme are vastly different to those who enter through the main scheme or Clearing route. Yet, as shown in Table 1, Clearing and

TABLE 3 | Heterogeneity by distance between predicted grades and offer grades.

	(1)	(2)	(3)	(4)
	Study	Decline	Firm	Insurance
Panel A: Distance between offer and prediction is < -1				
Contextual offer X cycle (β_3)	0.0949 (0.0374)**	-0.118 (0.0434)***	0.0727 (0.0383)*	0.0457 (0.0297)
Constant	0.280 (0.0781)***	0.499 (0.0826)***	0.399 (0.0815)***	0.102 (0.0556)*
N	4465	4455	4455	4455
R ²	0.096	0.112	0.115	0.060
Panel B: Distance between offer and prediction is between -1 and 1				
Contextual offer X cycle (β_3)	0.0916 (0.0450)**	-0.168 (0.0552)***	0.0468 (0.0461)	0.121 (0.0466)***
Constant	0.0697 (0.0858)	0.946 (0.107)***	0.0618 (0.0882)	-0.00771 (0.0856)
N	3628	3622	3622	3622
R ²	0.111	0.092	0.129	0.068
Panel C: Distance between offer and prediction is greater than 1				
Contextual offer X cycle (β_3)	-0.0233 (0.0375)	-0.0651 (0.0438)	-0.0360 (0.0386)	0.101 (0.0344)***
Constant	0.170 (0.0749)**	0.529 (0.0911)***	0.175 (0.0796)**	0.296 (0.0821)***
N	4328	4307	4307	4307
R ²	0.119	0.104	0.130	0.076

Note: Standard errors in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ Controls include Black, Minority Ethnic, Female, FSM, POLAR4 Quintile, Mature, Care Leaver, Local Student, Admissions Cycle and Course applied for. The sample includes applications received outside of Clearing who received an offer for an eligible course and had eligible qualifications. Columns (2)–(3) are based on the sample of applicants who responded to the offer.

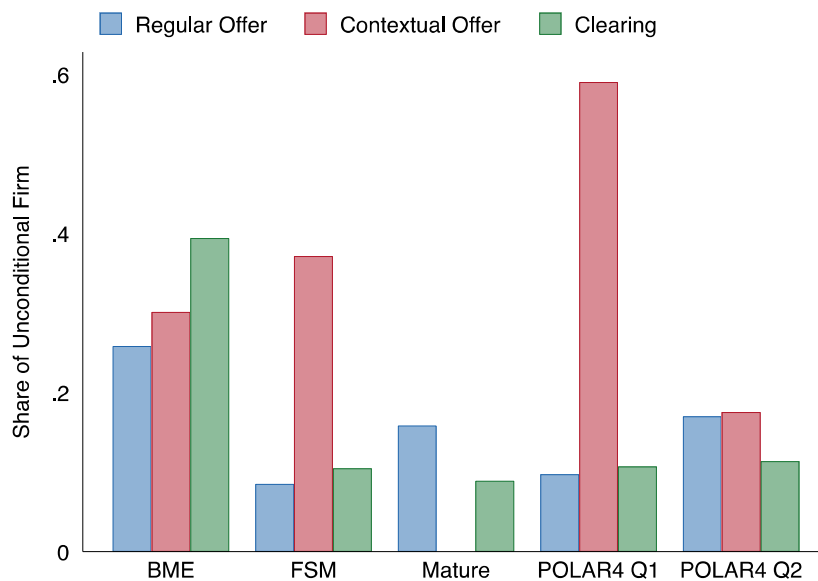


FIGURE 5 | Share of unconditional firm by entry type.

contextual offer applicants make up a similar share of the overall applicant pool.

4 | Summary of Findings

In using UCAS MEM2 for a contextual admissions scheme, the data suggests that contextual offers were made to applicants from a narrow scope of WP criteria. These applicants were mostly recipients of FSMs or situated in POLAR4 Q1. The UCAS MEM2 criteria did not support access for groups that had less emphasis in the UCAS MEM2 calculation. As mature applicants were not targeted by the scheme, and did not feature heavily in MEM2 calculations, this result is unsurprising.

Results suggest that the applicants' predicted grade performance was not lower than applicants ineligible for the contextual offer. Contextual offer applicants received offers below their predicted performance. This supports the hypothesis that applicants did not change their application behaviour and apply to the University due to receiving a reduced offer.

The DiD estimation found that the contextual offer increased the likelihood that an applicant selected the course as their insurance option. This does not necessarily translate into an increased likelihood of study at the university. A possible mechanism for this result is that the lower grade offers may impact applicants' perception of the course quality. Alternatively, applicants see the offer as a solid insurance choice with offer grades substantially below their firm choice.

On review of the distance between predicted and offer grades, we found that the contextual offer had no impact on applicants whose predicted grades were more than one grade below that of their offer grades. Applicants were much more likely to select the offer as their insurance if the offer was one grade below or met or exceeded their predicted grade profile. The average treatment effect was that applicants with such offers were around

10% more likely to select 'insurance'. This result supports the notion that applicants see the reduced offer as a good 'safety' choice, which does not translate to studying at the university if applicants meet their firm offer. Where the offer exceeds the predicted grades, we observe an increase of 7% in the likelihood that an applicant selects firm, suggesting that for these applicants this is a riskier choice. For applicants where the offer was within the predicted grade range, we observed a statistically significant increase in likelihood of eventual study through increased probability of selecting firm, suggesting that the offer represented an aspirational target for the applicant. Referring to Figure 2, few applicants who received the contextual offer fell into this category of receiving an aspirational offer. This suggests that when using UCAS MEM2, further consideration is needed to ensure contextual offers are going to applicants that will benefit the most.

Study findings highlight the importance of predicted grades for understanding how students respond to offers. The interaction between predicted grades, offer grades, and applicant decision making is important for determining the effectiveness of a contextual admissions policy. Leckie and Maragkou (2023) use administrative data from UCAS, Ofqual and the Department of Education to show that there are systematic differences in how teachers produce predicted grades relating to sociodemographic and school characteristics. They found that advantaged students are more optimistically predicted. Thus, we can infer that the WP students who receive the contextual offer are likely to have predicted grades which are not as optimistic and thus not a true reflection of their capabilities. Hence, providing applicants from WP backgrounds with offers much lower than their predicted grades reinforces that the course applied for represents a solid insurance option for them. In the current study, focusing on the 2022/23 admissions cycle, insurance offer holders with a regular offer were more likely to miss their insurance offer to study at the University compared to contextual offer holders (66.1% and 52.6%, respectively).

The position of the University as a non-Russell Group, medium-tariff, research intensive university, leads to a significant amount of activity during the Confirmation and Clearing period. This could be due to the institution being an attractive and aspirational choice for applicants, as well as losing students to higher tariff institutions where applicants exceeded their predicted grades. Clearing applicants are generally more advantaged than the wider cohort (University and Colleges Admissions Service 2023d) and as such, this period can significantly alter the profile of the University's intake—undoing the work to increase representation of WP students. In considering how Clearing entrants compare to contextual offer and regular offer entrants, our findings indicate that the Clearing applicants mostly resemble regular offer holders rather than contextual offer holders. This suggests that universities that rely heavily on Clearing risk undermining efforts to increase WP intake through contextual offers.

4.1 | Recommendations for University Contextual Admissions Policies

Our findings have clear implications for universities using or considering the use of UCAS MEM2 for contextual offers, or more broadly, the responses of applicants to a contextual offer. Based on our research, and in line with the current literature, our recommendations are as follows:

- UCAS MEM2 offers a robust proxy measure for a narrow scope of WP criteria. It is important to consider how closely MEM2 criteria align with the university objectives and APP commitments when deciding which metrics to use for contextual offer eligibility. Universities may be exposed to additional risks given the limitations of MEM2 as a proxy for wider WP groups, such as potential delays in accurate data being made available and variable applicant behaviour. It is important for universities to ensure there is regular in-cycle monitoring of contextual offer demographics, volume and conversion to mitigate risks.
- Advertise the eligibility criteria for contextual admissions. If the hope is to increase the share of applicants from WP backgrounds, promotion and ability to check eligibility criteria is important (Boliver et al. 2017). This may increase the share of applicants from WP backgrounds. Transparency in communication of the eligibility criteria may result in greater recognition for those from WP backgrounds. Noteworthy, applicants are unable to check their UCAS MEM2 Group. As such, using tools where applicants can check whether they qualify for concessions could be useful for increasing the share of applicants from WP backgrounds who might otherwise feel that the entry requirements are unattainable. In the current study, we found evidence that the contextual admissions policy as implemented in our context did not alter student decision to apply. A scheme that changes the demographics of the applicant pool has the potential to be more effective.
- Consider the impact of the scheme on applicant perception. The university, without considering contextual factors in its admissions, is likely to attract applicants that think they are able to achieve the advertised entry

requirements; thus, a two grade reduction may lead to the course or university becoming an attractive insurance option in the case that the assessment period does not go to plan. This is supported by our finding of an increase in insurance responses, particularly for those with predictions substantially above the offer. This behaviour creates a level of risk for the university and may not actually increase the share of students with high ability with WP characteristics. Rather, the contextual offer should be focused on applicants where the standard offer is considered ambitious, thus truly recognising the impact of a disrupted educational journey.

- While not specifically related to our research questions, a noteworthy reflection from the process of using MEM2 was that MEM2 data was not immediately available in a reliable manner for universities to make decisions. Consideration should be given to the applicant experience when making contextual offers and the potential impacts on applicant behaviour. Students having access to their MEM2 score ahead of applying may help applicants make a more informed decision where UCAS MEM2 is used by universities for admissions or other initiatives.

Lastly, the pool of applicants, and thus students who go onto study at the university with a contextual offer look different to the pool of applicants that enter via Clearing. Several universities across the sector rely on Clearing for a substantial share of admissions. The profile of these entrants can influence the demographics of the incoming undergraduates. Our results suggest a successful contextual admissions policy should consider how these routes to entry interact with one another to form the profile of the undergraduate student population. These students may face similar hurdles in terms of their 'sense of belonging' or need additional academic support during their studies. Universities should keep this in mind and design holistic support packages, which do not discriminate by entry route.

4.2 | Future Research

Within this study, we were unable to observe applicants' broader behaviour in the admissions cycle. That is, we do not know the other universities applicants applied to, offers they received, or the final decisions taken. This information could be important for considering how the contextual offer compared to the other offers the applicant received in relation to their firm offer grades and predicted performance. This presents an interesting avenue of research where this data can be made available.

Moreover, more evaluation is needed to understand what a successful policy might look like and how this may work. For example, would active promotion of contextual admissions have an impact on applicant behaviour? Would promotion alter the demographics of applicants, leading to a greater conversion of WP students to eventual study at the institution? Future research should also consider the longer-term impacts of such policies on student attainment in HE and into the labour market.

4.3 | Strengths and Limitations

A core strength of our analysis is exploiting how the policy was implemented, which generated a quasi-experimental setting, enabling us to estimate the causal impact of the policy. A key assumption of the DiD estimation strategy is that there was no anticipation of the policy. This is supported in two ways (1) the policy was not broadly promoted by the institution, so applicants were unlikely to know about the contextual offer *ex ante*, and (2) applicants were unable to check their MEM2 group. As a result, despite knowing about the policy, they had no way of knowing whether they were eligible. Therefore, our identification allows us to ask *ceteris paribus* what is the impact of receiving the reduced offer on offer holder behaviour.

Despite these strengths, a key limitation when interpreting our results is that this study was completed at one university and, as such, results may not be generalisable across the UK or wider HE sector. Applicants may respond differently to such policies in different locations, institution type or alternative measures used to implement and identify contextual offer eligibility. Whilst our research provides some implications of such a policy, the sample limitations should be kept in mind. Additionally, there is limited ability to check the robustness of our estimation strategy due to only having data from two admissions cycles. Because of this, we cannot test for parallel trends between our treatment and control groups, that is, whether their behaviour evolves similarly over time in the absence of the treatment.

In addition, there were several courses exempt from the contextual admissions policy, as well as students who were not eligible for contextual offers. It may be that those with mixed qualifications (a combination of BTECs and A-Levels) may respond differently to such a policy. As such, our findings may not translate to applicants of different qualification types. Despite this, our study sheds light on the possible implications of lower-than-expected grade offers for applicants. Further evidence on contextual admissions policies in other settings is needed to fully understand their intended outcomes.

5 | Conclusion

The effectiveness of using contextual factors for contextual admissions depends on the specific context, the measures chosen, and the university's commitment to fairness and inclusivity. This study exploited a quasi-experimental setting to understand the use of UCAS MEM2 for a contextual admissions policy. Using UCAS MEM2 data aligned with offer making to applicants from POLAR4 Q1 backgrounds, and recipients of FSMs. Noteworthy, UCAS MEM2 did not identify all dimensions of WP, which are considered in the institution's APP, for example, applicants classified as mature, or from Black and Minority Ethnic backgrounds. As such, other HE institutions should be mindful of the implications of excluded WP characteristics. We found that applicants eligible for the contextual offer had similar grade profiles to regular offer holders, with the contextual admissions scheme leading them to receive a substantially lower offer than expected. Applicants were more likely to place the offer from the University as their insurance option, with a marginal increase

in probability of study at the University. Clearing applicants were similar in their profile to regular offer holders.

Our reflections from the evaluation of using UCAS MEM2 data for contextual admissions suggest that an optimal contextual admissions policy should have a mechanism which increases the share of applicants from all WP backgrounds, and where the applicant is aware of their eligibility for the contextual offer. Consideration should be made regarding how this interacts with the Confirmation and Clearing processes, which can influence the impact of contextual admissions policies. This paper solely focused on access, with respect to contextual admissions. Future work should review the ongoing impact and considerations institutions need to make across the student life cycle.

Author Contributions

Laura A. Harvey: conceptualization, investigation, methodology, writing – review and editing, software, formal analysis, writing – original draft, validation. **Stephanie T. Jong:** conceptualization, writing – original draft, writing – review and editing, investigation. **Myles Smith:** investigation, validation, writing – review and editing, data curation.

Ethics Statement

Ethics approval was granted by the University's Research Ethics Committee (ETH2223-2579; 21st of August, 2023).

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Research data are not shared.

Endnotes

¹ Ethical approval was granted by the University's Research Ethics Committee (ETH2223-2579; 21st of August, 2023).

² Example: An applicant is predicted ABB and is made an offer at ABB, in which case the distance would be zero. Or the applicant is made an offer at ABB and predicted AAB in which case the distance would be 1.

³ Recall, there is no way for students to check their assigned UCAS MEM2 score beforehand. So even if the student was aware of the policy, there is no way they could have known for certain that they could be eligible.

⁴ We do not know whether the applicant eventually registered at the institution. Instead, we identify applicants with a high likelihood of eventual study at the institution where an applicant chose 'firm' following an unconditional offer. From this we can assume that following confirmation and clearing, the applicant began the enrolment process to the institution.

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