

9-1-2022

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### Recommended Citation

Elahi, Anam; McIntyre, Jason C.; Thomas, Justin; Abernethy, Louise; Bentall, Richard P.; and White, Ross G., "Symptoms of Paranoia Experienced by Students of Pakistani Heritage in England: The Role of Explicit and Implicit Identities and Perceived Discrimination" (2022). *All Works*. 5330.  
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## OPEN

# Symptoms of Paranoia Experienced by Students of Pakistani Heritage in England

## *The Role of Explicit and Implicit Identities and Perceived Discrimination*

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**Abstract:** Individuals belonging to ethnic minority groups are less likely to experience symptoms of psychosis, such as paranoia, if they live in areas with high proportions of people from the same ethnic background. This effect may be due to processes associated with group belonging (social identification). We examined whether the relationship between perceived discrimination and paranoia was moderated by explicit and implicit Pakistani/English identification among students of Pakistani heritage ( $N = 119$ ). Participants completed measures of explicit and implicit Pakistani and English identity, a measure of perceived discrimination, and a measure of paranoia. Perceived discrimination was the strongest predictor of paranoia (0.31). Implicit identities moderated the relationship between perceived discrimination and paranoia ( $-0.17$ ). The findings suggest that higher levels of implicit Pakistani identity were most protective against high levels of paranoia (0.26, with low implicit English identity; 0.78, with medium English identity; 1.46, with high English identity). Overall, a complex relationship between identity and paranoia was apparent.

**Key Words:** English identity, Pakistani identity, explicit, implicit, paranoia

(*J Nerv Ment Dis* 2022;210: 680–685)

There is compelling evidence that individuals belonging to ethnic minority groups experience poor mental health outcomes, including higher rates of psychosis, in comparison to the White UK population (Fearon et al., 2006; Coid et al., 2008). A number of research studies, supported by a meta-analysis (Bosqui et al., 2014), have also reported an “ethnic density effect,” such that people from ethnic minority backgrounds are especially likely to experience higher rates of psychosis in areas where a low number of same-ethnicity individuals reside (Boydell et al., 2001; Halpern and Nazroo, 2000). In a population-based study by Bécares et al. (2009) that reported the ethnic density effect, the authors noted that high-ethnic density areas (in which the majority of people are of the same ethnicity) facilitate the development of social networks within ethnic minority groups, and thereby possibly help mitigate some of the negative effects of discrimination and racism on health. Crucially, in this study, participants from high-ethnic density areas experienced less racism, and a weaker association between racism and health was evident as ethnic density increased.

The relationship between ethnic density and mental health has been examined in various ethnic minority groups. This includes some, albeit limited, research in Pakistani populations. It has been estimated that approximately 10% of Pakistani individuals living in England have experienced at least one symptom of psychosis (King et al., 2005). Because Pakistani people represent a prominent ethnic minority group within the British population, identifying the social factors and psychological processes that influence their mental health could have important public health implications.

One factor that may account for some of the mental health disadvantages experienced by ethnic minority groups, such as those of Pakistani heritage, is social identity. Social identity theory (SIT; Tajfel and Turner, 1979) suggests that people have a basic need to belong to and identify with social groups. The theory describes how identifying with groups leads to, and maintains, differences in attitudes and behaviors towards ingroups (*i.e.*, “us”) and outgroups (*i.e.*, “them”). SIT has been applied to mental health symptoms such as depression and anxiety (Cruwys et al., 2013, 2014) and has led to the development of interventions designed to improve and enhance an individuals' sense of identity and overall well-being (Haslam et al., 2016; Knight and Haslam, 2010).

A theoretical account by McIntyre et al. (2016) suggested that strong social identification can reduce symptoms of psychosis through several social and psychological pathways, such as by boosting self-esteem. In a large-scale study with two different sample groups, McIntyre et al. (2018) found that stronger social identities, in this case “neighborhood” and “friendship group” identities, reduced levels of paranoia and depression by enhancing people's self-esteem. Comparable findings were reported in both cross-sectional and longitudinal studies from Cypriot and Spanish student samples, which showed a negative association between family identification and paranoia over time (Sani et al., 2017). Thomas et al. (2017) considered the specific role of ethnic identity in a study that assessed the American and Emirati identities of female university students in the United Arab Emirates; identity was tested both explicitly by questionnaire and implicitly by means of an affective priming task (described below). In this study, implicit Emirati identification (ingroup preference) was associated with lower levels of paranoia, whereas implicit American identification (outgroup preference) was associated with higher levels of paranoia.

A subsequent study of UK African-Caribbean adults found a more complex relationship between ethnic identity and paranoia. In this study, participants who strongly identified as being British, but who experienced high levels of negative contact with the majority White British population, were more likely to experience paranoia (McIntyre et al., 2019). This finding suggests that the effects of social identities may be positive or negative contingent on the quality of contact with other people from the ingroup.

Previous literature has concluded that discrimination is associated with a range of poor mental health outcomes including depression, psychological distress, anxiety, and reduced well-being (Paradies, 2006; Williams et al., 2003). In relation to psychosis, some studies have suggested that discrimination is associated with subclinical symptoms,

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Ethical approval: Ethical approval for the study was obtained from the University of Liverpool (ref: 1898).

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ISSN: 0022-3018/22/21009-0680

DOI: 10.1097/NMD.0000000000001520.

although not symptoms of clinical severity (Combs et al., 2006; Rippey and Newman, 2006). One study examined the relationship between perceived ethnic discrimination and paranoia in individuals at ultrahigh-risk (UHR) for psychosis using a virtual reality paradigm to objectively measure paranoia (Shaikh et al., 2016). Perceived ethnic discrimination was found to be higher in young adults at UHR for psychosis in comparison with healthy controls. In addition, within the whole sample, perceived ethnic discrimination was positively associated with paranoia. These findings are in line with psychological models that highlight the role of victimization and threats to self-esteem in paranoia (Bentall et al., 2001; Freeman, 2016).

In the current study, we aim to add to the existing research evidence by assessing, for the first time, whether explicit and implicit Pakistani and English identities attenuate or exacerbate the negative effects of perceived discrimination on levels of paranoia. To do this, we recruited adolescents of Pakistani heritage who were born in England. We hypothesized that individuals who perceive that they are strongly discriminated against and identify explicitly or implicitly as being English would exhibit higher levels of paranoia. However, individuals who perceive they are strongly discriminated against and identify explicitly or implicitly as being Pakistani would exhibit lower levels of paranoia.

## METHODS

### Participants and Design

A priori sample size calculations using G\*power (Faul and Erdfelder, 1992) suggested a minimum sample size of 116 would be required to detect a total effect of 0.15 with five predictors (power = 0.90,  $\alpha = .05$ ). We recruited 127 participants who were students at a higher education college in Lancashire aged between 16 and 18 years. All were born in England and had at least one parent who was of Pakistani heritage. Two participants reported being in contact with mental health services. Participants were excluded if they had an error rate of 20% or above on the affective priming task (APT) (see succeeding section), predetermined as indicating a lack of effort or poor understanding of the task. Eight (6.3%) participants were excluded on this basis, leaving a final sample of 119, with 48 males (40.3%) and 71 females (59.7%). Participants were entered into a prize draw in return for their participation.

### Measures

#### Implicit Pakistani and English Identities

Participants' implicit identities were measured using an APT, which required participants to respond to positive and negative words that were primed by pictures that represented either English or Pakistani identities. As noted by Plant et al. (2009), faster responses to positive words that appear after primes representing a specific identity indicate a preference for this group (e.g., faster responses to positive words that follow Pakistani primes indicate Pakistani identification). Participants may identify with both ethnic groups; thus, the two constructs were measured independently.

The primes were selected after a pilot test with 20 individuals who were recruited through informal networks in the same town as the higher education institute. They were older than 18 years, identified as being of Pakistani heritage, and were born in England. They were shown 20 pictures representing Pakistani culture and 20 pictures representing English culture and were asked to rate them on a 7-point Likert scale depending on how representative they were of the two ethnic groups. The response options ranged from 1 (not at all) to 7 (completely). The 12 English and 12 Pakistani images that were rated as being the most representative of the respective ethnic groups were then included in the APT. All images were presented in black and white to prevent color from influencing the participants' responses. Examples included the flags of both countries, maps of both countries, and photographs of culturally specific foodstuffs and of well-known political figures.

The positive (e.g., fun) and negative (e.g., hate) words that followed the images were selected from the *Affective Norms for English Words* (Bradley and Lang, 1999) and have been used in previous APT studies (Thomas et al., 2017). The lengths of the positive (mean, 6.08; SD, 2.23) and negative words (mean, 6.16; SD, 1.89) did not differ ( $t[22] = 0.2$ ,  $p > 0.05$ ). Two APT performance scores were calculated for each participant, one for implicit Pakistani identity and one for implicit English identity, using the method proposed by Wentura and Degner (2010): APT score (for Pakistani identity) = (median response time (RT) for negative target words following Pakistani images – median RT for positive target words following Pakistani images); APT score (for English identity) = (median RT for negative target words following English images – median RT for positive target words following English images). Hence, a positive APT score indicated strong implicit Pakistani/English identification.

#### Explicit Pakistani and English Identities

Explicit identities were measured using the Four-Item measure of Social Identification (Postmes et al., 2013). For each identity, participants indicated on a 7-point scale the extent to which they identified as Pakistani or English, for example, "I am glad to be Pakistani/English." Response options ranged from 1 (disagree completely) to 7 (agree completely). The internal consistency for the scale was excellent ( $\alpha = .91$ ).

#### Paranoia

Paranoia was assessed using the 10-item persecution subscale of the Persecution and Deservedness Scale (PaDS; Melo et al., 2009). Participants rated their agreement on a 5-point scale with statements such as "I'm often suspicious of other people's intentions towards me" and "You should only trust yourself." Response options ranged from 1 (strongly disagree) to 5 (strongly agree). The level of internal consistency for the scale was very good ( $\alpha = .84$ ).

#### Current Mental Health Status

Participants' current mental health status was measured using a single-item: "Are you currently in contact with mental health services?" Response options were 1 (yes) or 2 (no).

#### Perceived Discrimination

To assess perceived discrimination against the Pakistani ethnic group, participants rated their agreement with two statements using a 6-point scale (Major et al., 2007). The statements were as follows: "My Pakistani ethnic group is discriminated against" and "Other members of my ethnicity (Pakistani) experience discrimination." Response options ranged from 0 (strongly disagree) to 6 (strongly agree) ( $\alpha = .82$ ). The mean of the two scores was used for analysis purposes.

#### Gender

Participants were asked to indicate whether they identified as being male or female. This was coded as 0 (male) or 1 (female).

#### Procedure

First, participants were given a Participant Information Sheet and asked to provide their consent. Participants were asked to complete a demographic and current mental health information questionnaire. Next, participants completed a five-trial dummy run of the APT to ensure the task requirements were understood. After this initial trial, the APT was presented. For the first 300 milliseconds of each trial, a prime image was presented followed by a positive/negative target word. The target word (e.g., love/hate) remained on the screen until participants either pressed the "P" key for a positive word or the "Q" key for a negative word. There were 96 trials in total, 48 positive and 48 negative words; half the pictures in each category were preceded by a Pakistani

**TABLE 1.** Descriptive Statistics and Bivariate Correlations Between the Variables

Variable	Mean	SD	1	2	3	4	5	6
1. Paranoia	11.37	7.22	—	-.19*	.02	.18	-.01	.31**
2. Explicit Pakistani identity	5.72	1.13	—	—	.39**	.11	-.01	.05
3. Explicit English identity	4.82	1.12	—	—	—	.01	-.11	.05
4. Implicit Pakistani identity	2.00	7.16	—	—	—	—	.18*	.01
5. Implicit English identity	1.55	8.84	—	—	—	—	—	.09
6. Perceived discrimination	2.90	1.52	—	—	—	—	—	—

\* $p < 0.05$ .\*\* $p < 0.01$ .

heritage prime, and half were preceded by an English heritage prime. The computer generated a random sequence of the trials for each participant. The same words and prime images were used in the five-trial dummy run and the APT. The APT was followed by the explicit identity measures and the perceived discrimination items. Finally, participants completed the PaDs.

### Statistical Analyses

Descriptive statistics and bivariate correlations were calculated between the key variables: paranoia, explicit Pakistani identity, explicit English identity, implicit Pakistani identity, implicit English identity, perceived discrimination and gender. A multiple linear regression was then conducted to explore the relative contribution of each independent variable in predicting paranoia.

Explicit Pakistani identity, explicit English identity, implicit Pakistani identity, and implicit English identity were then tested as moderators of the relationship between perceived discrimination and paranoia. These moderation analyses were conducted using model 2 of the PROCESS extension (Hayes, 2012) in SPSS v24 (IBM Corp., 2016). Indirect effects were calculated via bootstrapping with 10,000 resamples. Gender was included in the model as a covariate.

## RESULTS

### Preliminary Analyses

Means, standard deviations, and zero-order correlations (Pearson  $r$ ) for the final sample are reported in Table 1. A moderate positive association was evident between paranoia and perceived discrimination, and a weak negative association was evident between paranoia and explicit Pakistani identity. There was a moderate positive association between

explicit Pakistani identity and explicit English identity, and a weak positive association between implicit Pakistani identity and implicit English identity; hence, the two explicit identities were correlated as were the two implicit identity measures, but the explicit measures did not correlate with the implicit measures and multicollinearity was not problematic. No other associations were significant. Finally, inspection of the P–P plot of observed and predicted residuals indicated that residuals were normally distributed for the multiple regression analysis.

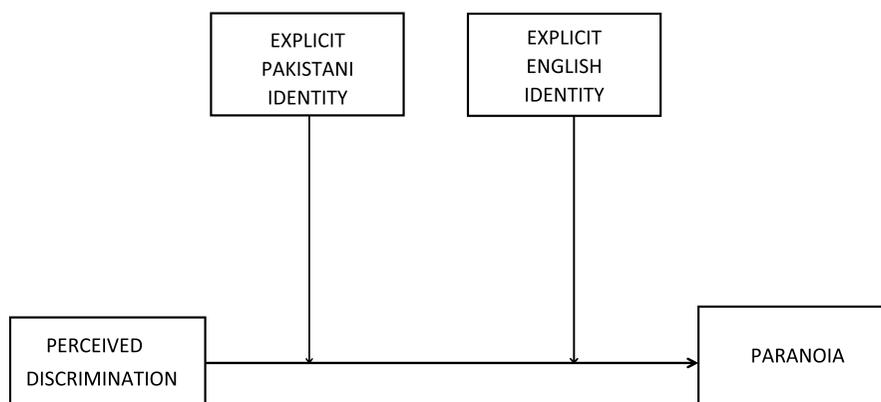
### Regression

A multiple linear regression was conducted with paranoia entered as the criterion variable, and explicit Pakistani identity, explicit English identity, implicit Pakistani identity, implicit English identity, perceived discrimination, and gender entered as predictors.

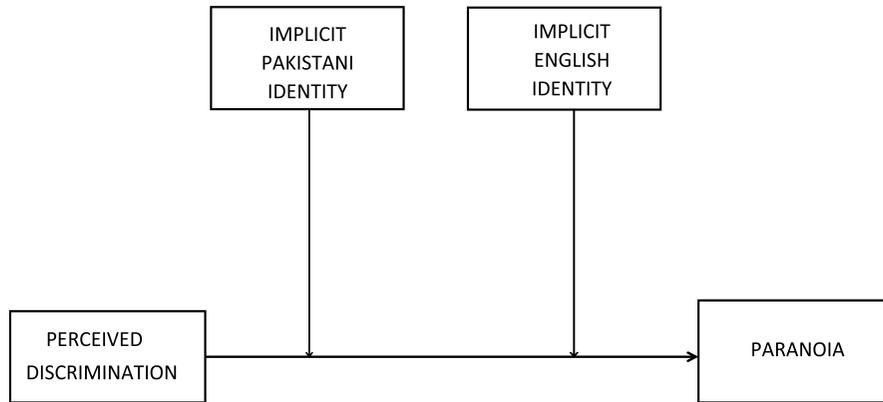
A significant overall model was found ( $F[6,112] = 4.72, p < 0.001, R^2 = 0.16$ ), which explained 20% of the variance in the criterion. Low levels of explicit Pakistani identity ( $B = -1.77, p = 0.003$ ) and high levels of implicit Pakistani identity ( $B = 0.22, p < 0.01$ ) and perceived discrimination ( $B = 1.51, p < 0.001$ ) were found to significantly predict higher paranoia. However, explicit English identity ( $B = 0.74, p = 0.22$ ), implicit English identity ( $B = -0.05, p = 0.49$ ), and gender ( $B = -1.54, p = 0.22$ ) were not significant predictors of paranoia.

### Moderation Analyses

Two moderation analyses were conducted (Figs. 1, 2) to assess whether identity moderated the relationship between perceived discrimination and paranoia. In the first model, explicit Pakistani identity and explicit English identity were tested as potential moderators (Fig. 1). In the second model, implicit Pakistani identity and implicit English identity were tested as potential moderators (Fig. 2).



**FIGURE 1.** Conceptual model of the moderated effects of explicit Pakistani identity and explicit English identity on the relationship between perceived discrimination and paranoia.



**FIGURE 2.** Conceptual model of the moderated effects of implicit Pakistani identity and implicit English identity on the relationship between perceived discrimination and paranoia.

**Explicit Pakistani Identity and Explicit English Identity**

Table 2 illustrates the effects for the explicit identity variables ( $F[6,112] = 3.62, p < 0.005, R^2 = 0.16$ ). The analyses revealed that explicit Pakistani identity predicted paranoia independently of perceived discrimination, and inspection of the coefficients revealed that this association was negative (low levels of explicit Pakistani identity predicted high levels of paranoia), consistent with the multiple regression analysis. This indicates that high levels of explicit Pakistani identity are associated with low levels of paranoia. No other effects were significant.

**Implicit Pakistani Identity and Implicit English Identity**

Table 3 shows the same analyses repeated with the implicit measures of identity ( $F[6,112] = 4.63, p < 0.001, R^2 = 0.20$ ). The analyses revealed that perceived discrimination positively predicted paranoia. Implicit Pakistani identity also positively predicted paranoia, independently of perceived discrimination. There was also a significant interaction effect of implicit Pakistani identity and perceived discrimination. This suggests that high levels of perceived discrimination are associated with high levels of paranoia; high levels of implicit Pakistani identity are associated with high levels of paranoia; and high levels of perceived discrimination combined with high levels of implicit Pakistani identity are associated with low levels of paranoia. No other effects were significant.

Follow-up tests for the significant interaction are reported in Table 4, which shows the effect of perceived discrimination on paranoia, at low (-1 SD), medium (mean), and high levels (+1 SD) of the two implicit identity moderators (implicit Pakistani identity and implicit English identity). It can be seen that perceived discrimination is associated more strongly with paranoia when implicit Pakistani identity is low, irrespective of levels of implicit English identity. When implicit

Pakistani identity is high, the effects of discrimination on paranoia are weaker or not significant.

**DISCUSSION**

There is growing evidence to suggest that issues pertaining to social identity and discrimination may be important factors implicated in the mental health and well-being of marginalized groups. In this study, we tested the hypothesis that explicit and implicit ethnic identities moderate the negative effects of perceived discrimination on levels of paranoia among people of Pakistani heritage who were born in England. Our primary hypothesis was that explicit and implicit English identification would exacerbate the relationship between perceived discrimination and paranoia, and explicit and implicit Pakistani identification would protect against the paranoid-inducing effect of discrimination. Although the findings confirm the importance of both discrimination and ethnic identity, they point to a more complex relationship between identity and mental health symptoms than we hypothesized. Specifically, implicit Pakistani identification moderated the relationship between perceived discrimination and paranoia, partially supporting our hypothesis, with high levels of implicit Pakistani identity being particularly protective. However, other important effects were observed.

Perceived discrimination was the strongest positive predictor of paranoia in the correlation, regression, and moderation analyses, highlighting the importance of these kinds of victimization experiences for ethnic minority communities. This observation is consistent with previous research that suggests discrimination is associated with a wide range of mental health difficulties (Paradies, 2006; Rippey and Newman, 2006; Williams et al., 2003), particularly paranoia (Wickham et al., 2014).

**TABLE 2.** Unstandardized Interactive Effects of Explicit Pakistani Identity, Explicit English Identity, and Perceived Discrimination on Paranoia Adjusting for Gender

			<i>B</i>	SE	95% CI
Paranoia	On	Perceived discrimination	-0.07	2.03	-4.11 to 3.96
		Explicit Pakistani identity	-2.63*	1.23	-5.06 to -0.20
		Perceived discrimination × explicit Pakistani identity	0.38	0.39	-0.40 to 1.16
		Explicit English identity	1.07	1.26	-1.42 to 3.56
		Perceived discrimination × explicit English identity	-0.12	0.41	-0.93 to 0.69
		Gender	-1.47	1.29	-4.02 to 1.08

CI indicates confidence interval.

\* $p < 0.05$ .

**TABLE 3.** Unstandardized Interactive Effects of Implicit Pakistani Identity, Implicit English Identity, and Perceived Discrimination on Paranoia Adjusting for Gender

			<i>B</i>	SE	95% CI
Paranoia	On	Perceived discrimination	1.68***	0.41	0.86 to 2.50
		Implicit Pakistani identity	0.59**	0.18	0.22 to 0.95
		Perceived discrimination × implicit Pakistani identity	−0.17*	0.07	−0.31 to −0.04
		Implicit English identity	−0.36	0.19	−0.74 to 0.03
		Perceived discrimination × implicit English identity	0.11	0.06	−0.01 to 0.23
		Gender	−1.41	1.24	−3.88 to 1.06

CI indicates confidence interval.

\* $p < 0.05$ .

\*\* $p < 0.01$ .

\*\*\* $p < 0.001$ .

Paradoxically, in our simple regression analyses, implicit Pakistani identification positively predicted levels of paranoia, whereas in Thomas et al.'s (2017) study, implicit identification with Arabic culture (the majority) had the opposite effect in their regression analysis. Although it is beyond the scope of the current study to determine the reasons for this finding, a plausible explanation for this discrepancy between the two studies could be the negative stereotyping of Black and ethnic minority populations and especially people of Muslim faith (Bleich et al., 2015) in the British media and tabloid press. It seems likely that individuals who identify with these groups directly experience stereotypes as hostility from the majority population. In contrast to our study of ethnic minority students living in a country in which white-English culture is dominant, Thomas et al. tested Emirati students living in a culture that overwhelmingly supported a positive image of their ethnic group.

It is important to note that although our finding of a direct association between implicit Pakistani identity and paranoia might seem contrary to our findings from the moderation analysis, the former observation simply means that the more our participants “felt” Pakistani, the more likely they were to feel paranoid, whereas the moderation effect shows that implicit Pakistani identity nonetheless protected against the separate effect of discrimination. It is also important to note that although we have reported preliminary analyses here for completeness, the moderation model was the correct one for testing our primary hypothesis.

It is notable that we observed no relationship between implicit and explicit identities, underscoring the importance of distinguishing between the two. We conceived implicit identities as largely affect driven and reflecting the individual's “gut feelings” about Pakistani and English cultures. Our explicit identity measures, by contrast, required active reflection and potentially would have been affected by social desirability effects and participants' judgments about how they *should* respond. Hence, it is perhaps not surprising that those who least explicitly identified with Pakistani culture were most likely to report paranoia. In future research, it will be important to explore the relationships between these two types of identification and the extent to which they are affected by social context.

This study had a number of important limitations. It used a cross-sectional design and, therefore, provided a snapshot of the relationships between perceived discrimination, identity, and paranoia in a student population. A longitudinal design would provide a better understanding of the importance of explicit and implicit ethnic identities in modifying the pathway from perceived discrimination to paranoia. In addition, in the present study, psychological mediators were not tested. In future studies, it would be useful to assess whether self-esteem (Elahi et al., 2018) and/or locus of control (McIntyre et al., 2019) mediate

the relationship between perceived discrimination and mental health in the Pakistani community, as has been found in studies examining other stressors and populations.

Further research on the psychological impacts of ethnic identity may inform community-level interventions to promote the mental health of minorities. Research on migrant mental health and biculturalism suggests that people from ethnic minorities who identify strongly with both their culture of origin and the host culture are most likely to be mentally healthy and resilient (Berry and Kim, 1998; Tikhonov et al., 2019). Hence, social and educational interventions that encourage minority students to value both sides of their heritage are likely to be beneficial, as are policies that enhance culturally inclusive attitudes from the majority population.

Political and social interventions to improve relationships between ethnic groups and reduce negative stereotypes are also likely to have positive effects, particularly given social contact has been demonstrated to be particularly important in the context of identity-paranoia relationships in ethnic minority groups (McIntyre et al., 2019). These might, for example, include efforts to promote more opportunities for social interaction and trust building between people from different backgrounds.

**TABLE 4.** Unstandardized Effects of Perceived Discrimination on Paranoia, at Low (−1 SD), Medium (SD), and High (+1 SD) Levels of Implicit Pakistani Identity and Implicit English Identity

Implicit Pakistani Identity	Implicit English Identity	<i>B</i>	SE	95% CI
Low	Low	1.78**	0.53	0.74 to 2.83
Low	Medium	2.30***	0.50	1.30 to 3.30
Low	High	2.98***	0.67	1.65 to 4.31
Medium	Low	1.02*	0.47	0.09 to 1.95
Medium	Medium	1.54***	0.40	0.74 to 2.34
Medium	High	2.22***	0.56	1.11 to 3.33
High	Low	0.26	0.58	−0.89 to 1.41
High	Medium	0.78	0.49	1.20 to 1.76
High	High	1.46*	0.59	0.28 to 2.64

CI indicates confidence interval.

\* $p < 0.05$ .

\*\* $p < 0.01$ .

\*\*\* $p < 0.001$ .

## CONCLUSION

To conclude, this study found that although high levels of perceived discrimination are associated with high levels of paranoid symptoms in Pakistani students, strong identities associated with a person's heritage culture may protect against the adverse effects of this discrimination. The findings point to the complexity of relationships between ethnic identity and mental health and suggest that these effects may vary with context.

## DISCLOSURE

This research was part of A. E.'s PhD (awarded 2019) funded by the National Institute for Health Research (NIHR) Applied Research Collaboration North West Coast (ARC NWC). The views expressed are those of the authors and not necessarily those of the NIHR or the Department of Health and Social Care.

The authors declare no conflict of interest.

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