McIntyre, JC, Elahi, A, Barlow, FK, White, RG and Bentall, RP

The relationship between ingroup identity and Paranoid ideation among people from African and African Caribbean backgrounds.

http://researchonline.ljmu.ac.uk/id/eprint/11868/

Article

The relationship between ingroup identity and

Paranoid ideation among people from African and African-Caribbean backgrounds

Short title: Ingroup identity and paranoia

Word count (excluding abstract, figures and tables): 5100

Jason C. McIntyre[16], Anam Elahi[2], Fiona Kate Barlow[3], Ross G. White[4], Richard P. Bentall[5]

[1] Liverpool John Moores University, School of Natural Sciences and Psychology

[2] University of Manchester, Division of Psychology and Mental Health

[3] School of Psychology, The University of Queensland

[4] University of Liverpool, Institute of Life and Human Sciences

[5] University of Sheffield, Department of Psychology

[6] University of Liverpool, Department of Health Services Research,

Data availability statement:

Data is available for verification purposes by contacting the lead author, Dr Jason McIntyre (J.C.McIntyre@LJMU.ac.uk).

Abstract

Objectives: People from ethnic minority groups experience higher rates of paranoid delusions compared with people from ethnic majority groups. Identifying with social groups has been shown to protect against mental health symptoms; however, no studies have investigated the relationship between social identification and paranoia in ethnic minority populations. Here, we investigated the association between British identification and paranoia in a sample of people from African and African-Caribbean backgrounds living in the United Kingdom. We also assessed the role of potential mediating (self-esteem and locus of control) and moderating (contact with White British people) factors.

Design: Cross-sectional quantitative survey design.

Methods: We recruited 335 people from African and African-Caribbean backgrounds who completed on-line self-report measures of identification with Great Britain, self-esteem, locus of control, positive and negative contact with White British people, and paranoia.

Results: A parallel moderated mediation model indicated that British identification was associated with lower paranoia when participants experienced primarily positive contact with White British people. British identification was associated with higher paranoia when participants had primarily negative contact with White British people. Both effects were mediated by changes in locus of control, but self-esteem was not implicated in either pathway.

Conclusions: Identification with the majority culture is associated both positively and negatively with paranoid beliefs depending on the types of social interactions people experience. The findings have implications for preventative social prescribing initiatives and for understanding the causes of the high rates of psychosis in ethnic minority populations.

Practitioner Points

- People from African and African-Caribbean backgrounds experience high rates of paranoia, which may stem from social causes such as lack of belonging and negative social experiences.

- Among people from African backgrounds living in the UK, British identification is associated with lower paranoia when people's social experiences with White British people are positive, and higher paranoia when their social experiences with White British people are negative.

- It is recommended that social interventions designed to reduce paranoia in vulnerable groups foster positive social contact and community belonging, which should enhance feelings of personal control.

- Understanding the complex interplay between social identity and social contact in the development of paranoia may help therapists and researchers better understand the phenomenology and risk-factors of paranoid symptomology.

The relationship between ingroup identity and

Paranoid ideation among people from African and African-Caribbean backgrounds

Introduction

A person is said to be paranoid if they have a persistent belief that a person or group is attempting to deliberately harm them in some way (Bentall, Corcoran, Howard, Blackwood, & Kinderman, 2001). Although typically seen as a symptom of psychosis, in which case the paranoia may be said to constitute a delusion, substantial psychometric evidence now shows that clinical paranoia exists on a continuum with sub-clinical paranoid thoughts that are common in the general population (Bebbington et al., 2013; Elahi, Algorta, Varese, McIntyre, & Bentall, 2017). Sub-clinical paranoia is also associated with common psychiatric disorders such as depression and anxiety, and may be a 'bridge' symptom linking these common disorders to adverse circumstances such as harsh urban environments (Krabbendam & van Os, 2005; McElroy et al., 2019; van Os, 2005). Thus, understanding the determinants of paranoia in the community, particularly in vulnerable populations, could make a substantial contribution to the development of policies and interventions that improve population mental health.

Research suggests that paranoid delusions are often grounded in real external events, (Freeman & Garety, 2014). Indeed, people who suffer from negative life experiences are overrepresented among patients with psychosis, and several studies have found associations between traumatic life events in childhood (Bentall et al., 2014; Morrison, Frame, & Larkin, 2003; Varese et al., 2012) and adulthood (Beards et al., 2013) and psychotic symptoms. Given that paranoia is characterized by a severe distrust of others, it could be hypothesised that people's experiences within their immediate environment will influence the extent to which they will be affected. Indeed, paranoia is more sensitive to adverse socioeconomic (Wickham, Taylor, Shevlin, & Bentall, 2014) and family (Wickham, Sitko, & Bentall, 2015)

circumstances when compared with other symptoms of psychosis such as hallucinations and manic states. In this study, we examine the relationship between paranoia and the social environment among people from Black African and Black Caribbean backgrounds, who are at extreme risk of psychosis compared to other ethnic groups (Cantor-Graae & Selten, 2005; Fearon et al., 2006). Drawing on theory and research from social and clinical psychology outlined below, we hypothesize that when a person belongs to a social group (i.e., an ingroup) that is positive and supportive, paranoid beliefs should be reduced. Conversely, when a group to which someone belongs is hostile or unsupportive, paranoid beliefs will be elevated.

Terminology

There has been inconsistency in the use of terminology in the research literature referring to people of African descent. In-line with recommendations from Bhopal (2004), we use the terms "African" and "African-Caribbean" to indicate more recent geographical heritage and "Black" or "Black Britons" when referring to all people of African descent. The terms "Briton" and "British" are commonly used to refer to nationals of the United Kingdom of Great Britain and Northern Ireland. Our approach is theoretically driven and we therefore make hypotheses regarding the entire population of African and African-Caribbean people, but nonetheless examine potential ethnic group differences in the preliminary analyses. Indeed, while African and African-Caribbean people have different socio-cultural histories, the identity and social challenges faced by Black people in the United Kingdom are likely to be similar, and the effects of identity on paranoia and related psychological processes are theorised to be comparable across ethnic minority groups (McIntyre, Elahi, & Bentall, 2016).

Social identity and paranoia in ethnic minority groups

Consistent with the proposition that social group belonging is related to paranoia, the "Social Cure" model of mental health posits that people who belong to and identify with

positive and meaningful groups (social identification) experience better mental health outcomes (Jetten, Haslam, & Alexander, 2012). Research on the social cure suggests that social identities protect people from several mental health symptoms, including paranoia (Greenaway, Haslam, Bingley, & Relations, 2018; McIntyre, Wickham, Barr, & Bentall, 2017; Sani, Wakefield, Herrera, & Zeybek, 2017). There is also evidence that social group membership might be associated with the prevalence of paranoia in the community. Specifically, it has been shown that ethnic minority groups experience psychosis, and paranoia in particular (Westermeyer, 1989), at substantially higher rates than majority group members (Cantor-Graae & Selten, 2005). According to data from the longitudinal Aetiology and Ethnicity in Schizophrenia and Other Psychoses (AESOP) study, which compared first-episode psychosis patients to a sample of community controls, people from African-Caribbean backgrounds living in Great Britain are at particular risk within this sub-group. The AESOP study found that psychosis incidence rates were 6.7 times higher among African-Caribbeans and 4.5 times higher among Black Africans compared with White Britons. While this effect extends to other minority groups – for example, people from Asian backgrounds have an incidence rate 1.5 times higher than White Britons – people from African backgrounds are particularly vulnerable (Fearon et al., 2006). There is strong evidence that these ethnic differences are not biological in nature (Sharpley, Hutchinson, Murray, & McKenzie, 2001); thus, a better understanding of the social processes influencing paranoia in ethnic minority populations may inform social interventions that reduce the health burden of psychotic disorders.

A theoretical model proposed by McIntyre et al. (2016) detailed the psychological processes by which social identity might influence paranoid beliefs and the conditions under which these effects materialise. McIntyre and colleagues proposed that people from ethnic minority groups who develop positive and meaningful identification with the majority culture

should be at a lower risk of developing paranoid beliefs, but group processes such as norms, prejudice and social contact may moderate this relationship. Further, the authors proposed that the relationship between social identity and paranoia should be mediated by self-esteem and locus of control. This is because social identities are a source of self-esteem (Jetten et al., 2015) and low self-esteem is an important predictor of paranoia (Bentall et al., 2008). Indeed, it has been found that self-esteem mediates the relationship between social identity and paranoia in general population and student samples (McIntyre et al., 2017). However, the potential mediating role of self-esteem in identity-mental health relationships has not been tested in ethnic minority populations. Similarly, possessing an external locus of control (i.e., believing that one's life is controlled by external forces or agents) has been implicated in paranoid ideation in several studies (Kaney & Bentall, 1989; Lasar, 1997; Rosenbaum & Hadari, 1985). Social identity, conversely, has been posited (Hogg, 2000) and shown (Greenaway et al., 2015) to promote feelings of personal control, and has therefore been hypothesized to also mediate the relationship between social identity and paranoia in ethnic minority groups (McIntyre et al., 2016).

Faris and Dunham (1939) first noted that immigrants who live in areas with mostly majority group members are at a higher risk of developing psychotic symptoms compared to people who live near people from their own ethnic group. Thenceforth, several studies have replicated this "ethnic density effect" in different countries and ethnic groups (see Bécares et al., 2012; Bosqui, Hoy, & Shannon, 2014). The role of ethnic density was first demonstrated among African-Caribbean people living in London by Boydell et al. (2001), and later in a Dutch study that found only immigrants living in areas with few people of their own ethnicity (low ethnic density) experienced higher rates of psychosis (Veling et al., 2007). One plausible explanation for the ethnic density effect is that negative contact with people from the majority ethnic group increases the risk of psychotic symptoms, a proposition supported by the finding

that experiences of racism and psychosis among minority group members are elevated in low ethnic density areas (Bécares, Nazroo, & Stafford, 2009).

The role of social contact

According to social identity theory, people gain meaning and a sense of self from the groups to which they belong. As such, social groups provide psychological fortification against low wellbeing and mental health symptoms, but only when those groups are supportive and positive. Intergroup contact theory (Allport, Clark, & Pettigrew, 1954) suggests that contact between groups can reduce prejudiced attitudes towards outgroup members. However, it has also been shown that positive contact reduces prejudice, while at the same time, negative contact increases it (Barlow et al., 2012). Thus, in the same way positive and negative contact have divergent effects on people's attitudes, positive and negative contact with ingroup members may have divergent effects on people's mental health.

Little empirical work has examined contact in the domain of mental health. Mendoza-Denton and Page-Gould (2008) found that cross-group friendships between Black and White university students improved wellbeing among Black students who were particularly sensitive to race-based rejection. Conversely, "everyday racism", such as being insulted or discriminated against while applying for a job, was found to be related to higher levels of psychological distress among immigrants living in Finland. Moreover, the effects of these everyday experiences were stronger predictors of distress than hate crimes (Jasinskaja-Lahti, Liebkind, Perhoniemi, & psychology, 2006), which suggests that seemingly less severe threats to belonging may have substantive detrimental effects on mental health. In the domain of paranoid beliefs, research has found that perceived religious discrimination is associated with sub-clinical paranoia among Muslim-Americans (Rippy & Newman, 2006), and that

perceived ethnic discrimination is associated with persecutory paranoid beliefs among

minority populations living in the United Kingdom (Shaikh et al., 2016).

Consistent with social identity theory and research on contact and discrimination, we

propose that among Black Britons, the relationship between social identification and paranoia

will be influenced by their social experiences. That is, when Black Britons have unsupportive

or hostile contact with White British people, identifying as British should increase paranoid

thoughts because group membership is no longer a source of meaning and self-worth; rather,

it is a source of oppression and distress. However, when Black Britons have supportive and

inclusive contact with White British people, identifying more strongly as British is expected

to protect against paranoid thoughts because the group is a source of personal control and

self-worth.

The present study

We aim to test the relationship between British identification and paranoid beliefs in

a sample of Black participants living in the United Kingdom. It has been found that ethnic

minorities experience elevated rates of paranoia (Fearon et al., 2006) and recently proposed

that social identity and social contact processes may explain these effects (McIntyre et al.,

2016). However, no empirical studies have tested this idea. Here, we test our predictions

using a cross-sectional design because it avoids difficulties associated with creating

naturalistic positive and negative social interactions in a laboratory setting. Moreover, as we

are conducting the first test of these hypotheses, cross-sectional data can inform the utility of

more resource-intensive longitudinal and qualitative work. We predict that stronger

identification will be related to lower paranoia. However, we expect that this will only be the

case when ingroup members are supportive and inclusive (i.e., they experience positive

contact with the White majority). When ingroups are unsupportive and hostile (i.e., they

experience negative contact with the White majority), stronger ingroup identification should

predict higher levels of paranoia. Finally, consistent with previous empirical work and theorising (McIntyre et al., 2016; McIntyre et al., 2017), we predict that the relationships between British identification and paranoia will be mediated by self-esteem and locus of control.

Method

Participants

Participants were recruited via the online survey company, Qualtrics, and their completion of the survey constituted implied consent. A non-clinical sample was obtained and only participants who identified as Black African, Black Caribbean, mixed-race Black African or mixed-race Black Caribbean *and* resided in the United Kingdom on their registered profile were invited to participate to reduce the possibility of incorrect ethnicity reporting. Past studies on social identity and paranoia report effect sizes of approximately .15. *A priori* power calculations conducted in G*Power (Faul, Erdfelder, Buchner, & Lang, 2009) assuming an effect size of .15 and setting alpha at .05 indicated that 348 participants would be required to obtain power of 80% for the main effects. A total of 350 participants were recruited for this study. Participants were excluded if manual attention checks showed a lack of engagement with the questions. Specifically, participants who failed to provide clear and coherent identities for all of the free-text identity questions (e.g. they typed in "ABCD" or "XXXX") were excluded from the analysis. A total of 12 (3.4 %) participants were excluded on this basis. This left a final sample of 338, comprising 109 males (30.5%) and 225 (68.4%) females. Two participants reported being intersex and two preferred not to state their sex. The mean age of participants was 32.62 years (*SD* = 11.45). Two hundred (59.2%) participants reported Caribbean heritage and 138 (40.8%) reported African heritage.

Ethical considerations

All respondents were given detailed information regarding the sensitive nature of the study to ensure they were aware of potential risks. They were also provided with details of organisations they could contact if they became distressed on the information page and debrief page. Participants were reminded of their right to withdraw at any time and did not have to provide any reason for withdrawal. All participants received financial reimbursement in return for their participation. The research was approved by the faculty ethics committee of the lead author's secondary institution (Ref: 2047).

Measures

  Ethnicity. Participants selected their ethnicity in a screening question with 16 different options. Only participants who responded as being Black African, Black Caribbean, Black African Mixed-race, or Black Caribbean Mixed-race were able to continue to the full survey.

  Identification with Great Britain. Identification with Great Britain was measured using the Four Item measure of Social Identification, which has been validated against longer measures of social identification and correlates with related constructs such as self-investment (FISI; Postmes, Haslam & Jans, 2013). Participants indicated on a seven-point scale the extent to which they identified with Great Britain and British people. The four items were: "I am glad to be British", "I feel committed to Great Britain", "I am glad to be British" and "Being British is an important part of how I see myself". Response options ranged from 1 = *disagree completely* to 7 = *agree completely.* The scale showed excellent internal consistency, α=.91.

  Positive and negative contact. Positive and negative contact with White people were each measured using a single item (Barlow et al., 2012). Positive contact was measured with the item: "On average, how frequently do you have positive contact with White people?" Negative contact was measured with the item: "On average, how frequently do you have

negative contact with White people?" Participants responded to both items on 7-point scales, 1 = *never* to 7 = *extremely frequently*.

Self-esteem. Participants completed the single-item self-esteem scale, which has been shown to be reliable and possesses good criterion and convergent validity (Robins, Hendin, & Trzesnieeski 2001). Participants indicated on a seven-point scale how true or untrue the statement "I have high self-esteem" was for them, 1 = *not very true of me*, 7 = *very true of me*.

Locus of Control (LoC). Participants completed the brief 9-item version of the Levenson (1973) Locus of Control scale (Sapp & Harrod, 1993). The scale has three dimensions: internality, powerful others and chance, with each subscale consisting of three items. For this study, the powerful others subscale was used because previous research had shown it to be the subscale most strongly linked to paranoia (Kaney & Bentall, 1989) and because it is the most conceptually relevant to paranoid thoughts. The items were "My life is chiefly controlled by powerful others", "People like myself have very little chance of protecting our personal interests when they conflict with those of strong pressure groups", and "I feel like what happens in my life is mostly determined by powerful people." Response options ranged from -3 = *strongly disagree* to +3 = *strongly agree*. Higher scores indicated an external LoC. The powerful others subscale showed good internal consistency, α=.82.

Paranoia. Paranoia was assessed with the persecution subscale of the persecution Persecution and Deservedness Scale (PaDS; Melo, Corcoran, Shryane, & Bentall, 2009). The PaDS has been validated against questionnaire and clinical assessments of paranoia (Melo et al., 2009) and has been used in other studies examining identity and paranoia (McIntyre et al., 2017; McIntyre, Worsley, Corcoran, Harrison-Woods, & Bentall, 2018). Participants rated their agreement on a five-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 scale demonstrated good internal consistency, α=.84.

Demographic variables. Participants were asked to indicate their age in years and biological sex coded as 1 = *male* and 2 = *female*.

Results

Preliminary analyses

Independent-groups t-tests were performed to test for differences on the key variables (social identity, positive contact, negative contact, self-esteem, locus of control, and paranoia) between participants identifying as African ($n = 136$) and participants identifying as Caribbean ($n = 198$). No corrections for multiple comparisons were performed to provide a liberal test of potential group differences. With alpha set at .05, no significant differences were found between Black African and Black Caribbean participants on any variable. Thus, the sample was considered as a whole.

Means, standard deviations and zero-order correlations are reported in Table 1. Paranoia was significantly associated with an external LoC, lower levels of British identification, higher levels of negative contact, lower levels of positive contact, and lower self-esteem. An external LoC was significantly associated with higher levels of negative contact and lower self-esteem. Higher British identification was significantly associated with higher levels of positive contact and higher self-esteem. Finally, positive contact was significantly associated with higher self-esteem and lower negative contact.

Main analysis

We conducted a parallel moderated mediation analysis to test whether the indirect effect of British identification on paranoia through self-esteem and locus of control was moderated by positive and negative contact with White Britons (Figure 1).

We used model 9 of the PROCESS extension (Hayes, 2012) in SPSS v24 (IBM Corp, 2016) to run the analysis. This model allows the assessment of conditional indirect effects (for multiple mediators entered simultaneously) at different levels of two moderators, also entered simultaneously. Indirect effects were calculated via bootstrapping with 1000 resamples and are reported at low (-1 SD) and high (+1 SD) levels of the moderators. The two moderators were positive contact and negative contact. The two mediators were locus of control and self-esteem. In-line with previous research on the determinants of paranoia, and research testing the relationship between identity and paranoia, age and sex were included in the model as covariates. Excluding age and sex did not affect the direction or significance of the reported effects. Coefficients for the regression models are reported in Table 2. Indirect effects are reported in Tables 3 and 4.

As shown in Table 3, there were no significant indirect effects of British identity on paranoia via self-esteem for any combination of positive and negative contact. There was, however, a significant negative effect of British identity on paranoia via locus of control at high levels of positive contact and low levels of negative contact. There was also a significant positive indirect effect of British identity on paranoia at high levels of negative contact and low levels of positive contact (Table 4).

Discussion

In the present study we tested the prediction that, among people of African and African-Caribbean heritage, identification with Great Britain would be associated with paranoia, but that the nature of this effect would depend on their social experiences (contact) with White British people. We also examined whether the relationship between social identification and paranoia was mediated by two previously theorised psychological mechanisms: self-esteem and locus of control. The correlational analysis revealed an overall medium association between negative contact and higher paranoia, and a significant but small

relationship between positive contact and lower paranoia. Consistent with predictions, LoC mediated the relationship between British identification and *higher* paranoia when there was low positive contact and high negative contact with White British people. LoC also mediated the relationship between British identification and *lower* paranoia when participants experienced high levels of positive contact and low levels of negative contact with the majority White British population. Thus, the relationship between social identification and paranoia completely reversed depending on whether participants had mostly positive or mostly negative contact with White British people. Contrary to predictions, self-esteem did not mediate the relationship between British identification and paranoia. Overall, our results suggest that for Black Britons, the relationship between British identity and paranoid beliefs is partly explained by feeling that their life is controlled – or not controlled – by others who are more powerful, and dependent on the valence of contact with the majority population.

Our findings support previous theorising that suggests experiences with the majority group are important in the development of paranoid symptoms in minority populations, and that this effect may be explained by changes in locus of control (McIntyre et al., 2016). Our findings also support the idea that people from ethnic minority groups who live in majority areas may be at a higher risk of developing psychotic symptoms (Boydell et al., 2001; Veling et al., 2007) because they are more likely to experience negative contact with the majority group. Indeed, it has been found that psychotic disorder diagnoses (Veling et al., 2007) and delusional ideation (Janssen et al., 2003) vary with perceived discrimination. This explanation is also consistent with the finding that experiences of racism and psychosis are higher in low ethnic density areas (Bécares et al., 2009).

While the present study did not specifically examine the experiences of immigrants, refugees, or asylum seekers, the results have implications for acculturation research. Our results suggest that the effects of discrimination on symptoms of psychosis may be most

potent when people have incorporated their new culture into their identity. The findings are therefore consistent with Berry and Kim (1988)'s model of acculturation, which suggests that being marginalised from the host culture is the most stressful form of acculturation, when compared to integration (bi-culturalism), assimilation (dis-identifying with one's original culture in favour of the host culture), and separation (maintaining original cultural identification). Indeed, our finding that self-esteem mediates the relationship between identity and paranoia is consistent with Berry and Kim's proposal that marginalisation is harmful to adjustment while integration is beneficial. However, our work suggests that a more nuanced acculturation model may be required that acknowledges marginalisation, in the form of negative contact or discrimination, may occur in the context of integration or assimilation of cultural identity. Thus, the four categories may represent overlapping constructs that change as people's identities mesh with their social experiences. The findings also provide a potential explanation for mixed findings in the acculturation and mental health literature, which have suggested integration is associated with increases and decreases in the severity of mental health symptoms (see Koneru, de Mamani, Flynn, Betancourt, & Psychology, 2007 for a review). Our findings suggest that this inconsistency may in part be due to the complex interplay between cultural identification and people's social experiences. Specifically, cultural integration is likely to be beneficial to mental health only when it is combined with positive social experiences with people from the host culture.

Our results elucidate the psychological mechanisms by which social identification might influence paranoid ideation in minority groups. Low levels of self-esteem have been found to play a crucial role in the manifestation of paranoid symptoms (see Bentall et al., 2001; Freeman, Garety, Kuipers, Fowler, & Bebbington, 2002). However, self-esteem did not mediate the identity-paranoia relationship in our sample, which is inconsistent with previous empirical research in majority White samples (McIntyre et al., 2017). Nevertheless, high self-

esteem was associated with stronger British identification and lower paranoia in the bivariate analyses, which is consistent with previous work on paranoia and low self-esteem (Bentall et al., 2008; McIntyre et al., 2017; Thewissen, Bentall, Lecomte, van Os, & Myin-Germeys, 2008). The absence of a mediating role for self-esteem could be explained by the inclusion of LoC in the model. In the context of the ingroup rejection literature, it is unsurprising that LoC was a more important mediator than self-esteem. Indeed, group acceptance has been shown to be particularly important in children's development of internal loci of control (Rohner, Chaille, Rohner, & Applied, 1980), and race-based rejection has been found to be associated with the higher scores on the powerful others LoC subscale among Black American women (Pieterse & Carter, 2010). It is also critical to note that people living in the UK from ethnic minority backgrounds are more likely to be detained under the Mental Health Act (Gajwani, Parsons, Birchwood, & Singh, 2016) and that this compulsory psychiatric admission may contribute to reduced feelings of personal control among people experiencing mental health symptoms.

Because LoC has not been tested as a mediator of the relationship between social identity and paranoia in general population samples, it is unclear whether its explanatory role is specific to minority groups or African-Caribbean populations. Conducting studies that examine self-esteem and LoC as parallel mediators in other populations is therefore an important next step for future research.

Our work extends the intergroup contact literature by demonstrating that the effects of contact on society can be both damaging and protective in the domain of mental health. Of note, we found that the effect of primarily negative contact on the pathway from social identity to paranoia was of the same magnitude as primarily positive contact. This partially conflicts with Barlow et al. (2012) who found that negative contact was a stronger predictor of more prejudiced attitudes than positive contact was of less prejudiced attitudes. However,

this asymmetry was only evident when examining the impact of contact on the identity-paranoia relationship. Overall, the relationship between negative contact and paranoia was nearly four times stronger than the relationship between positive contact and paranoia, suggesting that negative social interactions are a source of severe psychological distress. The effects of contact on society are far-reaching, impacting on prejudice, intergroup anxiety, and empathy (Pettigrew & Tropp, 2008). The present findings extend this literature by implicating contact in both the formation and reduction of paranoid beliefs in minority populations.

A limitation of our research is that the contact items, although being the standard questions used in the contact literature, did not explicitly refer to White British people. Thus, it possible that some participants recalled contact with White non-British people. However, it should be noted that "Whiteness" is associated with national identities in western nations (Devos, Banaji, & psychology, 2005; Devos & Ma, 2008; Sibley & Barlow, 2009), and that similar wording has been used in studies of contact with White Australian (Barlow, Louis, & Hewstone, 2009), White American (Tropp, 2007), and White British (Turner, Hewstone, Voci, Vonofakou, & psychology, 2008) people. The study was also cross-sectional and is therefore limited in the extent that it can explain causality. However, the causal pathways proposed here are supported by evidence-based theoretical arguments, and are acknowledged to be, to some extent, bidirectional (see McIntyre et al., 2016). Moreover, it should be noted that people from ethnic minority groups protect their identities by derogating the majority group, which may manifest as increased negative contact with the majority group. Future work using experimental paradigms that manipulate social identity salience, or longitudinal research assessing the role of identity change in paranoia symptom development, would provide a more robust test of causal pathways. Finally, while our study focused on people currently living in Great Britain, we did not specifically target refugees or asylum seekers

who may be at most risk of paranoia associated with dis-identification and negative social contact. We encourage researchers to recruit people from these populations in future studies.

Our findings strengthen calls for the implementation of more social prescribing programs to reduce mental health problems and subsequently ease pressure on mental health services. Connecting people with positive and meaningful social groups should, according to our findings, reduce the risk of people from African-Caribbean backgrounds, and potentially other minority groups, developing paranoid beliefs and psychosis. Given that paranoia lies on a continuum with healthy functioning (Elahi et al., 2017), increasing positive cultural identification through supportive social groups (e.g., Haslam, Cruwys, Haslam, Dingle, & Chang, 2016) before symptoms become severe represents a viable prevention strategy for mental health policy-makers. This suggestion dovetails with mental health service recommendations detailed in a review by the Sainsbury's Centre for Mental Health (Keating & Robertson, 2002), which suggests that creating a welcoming atmosphere within mental health services and encouraging community-integrated services will improve mental health among people from African and Caribbean backgrounds. Concurrent efforts to reduce discrimination and negative social interactions are also critical if psychosis rates are to be reduced among people from African and Caribbean backgrounds. Indeed, it is plausible that current social prescribing interventions sometimes inadvertently increase negative contact for people from minority cultures. Qualitative research that aims to identify the factors that facilitate positive contact and reduce negative contact may help guide future social interventions. It is also important to examine the role of ethnic identities in the development of paranoid ideation. It is likely that experiences of negative contact have contrasting effects on ethnic identities compared with host culture identities, and also subsequent mental health. For example, according to the Rejection-Identification Model (Branscombe, Schmitt, & Harvey, 1999), race-based rejection can both enhance and decay well-being through different

psychological pathways, depending on the extent to which the rejection enhances ethnic identification. Future studies assessing whether experiencing negative contact has beneficial of harmful effects on both ethnic identity and paranoia would be of interest to researchers in this area. When assessing ethnic identity in future work, researcher should consider that African and Caribbean identities are likely to be dissimilar due to their unique cultural and social histories.

The present research represents the first test of the relationship between social identity and paranoia in an ethnic minority population. We found that British identification is a double-edged sword for people from African and Caribbean backgrounds, relating to lower paranoia when they had largely positive social contact with White British people, and higher paranoia when contact was mostly negative. For both of these effects, possessing an external locus of control was the key explanatory psychological mechanism. Specifically, people's British identity predicted the extent to which they felt their lives were controlled by other more powerful people, which in turn predicted their level of paranoia. The findings increase our understanding of the potential causes of elevated psychosis rates among ethnic minority groups and the role of contact in the development of mental health symptoms. They also add nuance to social identity and acculturation models of mental health, showing that strong social identities can be harmful under certain conditions. Practical initiatives that encourage positive and meaningful contact between people from ethnic minority and majority groups therefore have the potential to reduce psychosis symptom risk among vulnerable populations.

References

Allport, G. W., Clark, K., & Pettigrew, T. (1954). The nature of prejudice. Oxford, England: Addison-Wesley

Barlow, F. K., Louis, W. R., & Hewstone, M. (2009). Rejected! Cognitions of rejection and intergroup anxiety as mediators of the impact of cross-group friendships on prejudice. *British journal of social psychology*, *48*(3), 389-405.

Barlow, F. K., Paolini, S., Pedersen, A., Hornsey, M. J., Radke, H. R., Harwood, J., Rubin, M., & Sibley, C. (2012). The contact caveat: Negative contact predicts increased prejudice more than positive contact predicts reduced prejudice. *Personality and Social Psychology Bulletin, 38*(12), 1629-1643.

Beards, S., Gayer-Anderson, C., Borges, S., Dewey, M. E., Fisher, H. L., & Morgan, C. (2013). Life events and psychosis: a review and meta-analysis. *Schizophrenia bulletin, 39*(4), 740-747.

Bebbington, P. E., McBride, O., Steel, C., Kuipers, E., Radovanoviĉ, M., Brugha, T., Jenkins, R., Meltzer, H, & Freeman, D. (2013). The structure of paranoia in the general population. *The British Journal of Psychiatry, 202*(6), 419-427.

Bécares, L., Nazroo, J., & Stafford, M. (2009). The buffering effects of ethnic density on experienced racism and health. *Health & Place, 15*(3), 700-708.

Bécares, L., Shaw, R., Nazroo, J., Stafford, M., Albor, C., Atkin, K., Kierman, K., Wilkinson, R., & Pickett, K. (2012). Ethnic density effects on physical morbidity, mortality, and health behaviors: a systematic review of the literature. *American Journal of Public Health 102*(12).

Bentall, R. P., Corcoran, R., Howard, R., Blackwood, N., & Kinderman, P. (2001). Persecutory delusions: a review and theoretical integration. *Clinical psychology review, 21*(8), 1143-1192.

Bentall, R. P., de Sousa, P., Varese, F., Wickham, S., Sitko, K., Haarmans, M., & Read, J. (2014). From adversity to psychosis: pathways and mechanisms from specific adversities to specific symptoms. *Social Psychiatry and Psychiatric Epidemiology, 49*(7), 1011-1022.

Bentall, R. P., Rouse, G., Kinderman, P., Blackwood, N., Howard, R., Moore, R., Cummins, S., & Corcoran, R. (2008). Paranoid delusions in schizophrenia spectrum disorders and depression: the transdiagnostic role of expectations of negative events and negative self-esteem. *The Journal of nervous and mental disease, 196*(5), 375-383.

Berry, J. W., & Kim, U. (1988). Acculturation and mental health.

Bhopal, R. (2004). Glossary of terms relating to ethnicity and race: for reflection and debate. *Journal of Epidemiology & Community Health, 58*(6), 441-445.

Bosqui, T. J., Hoy, K., & Shannon, C. (2014). A systematic review and meta-analysis of the ethnic density effect in psychotic disorders. *Social psychiatry and psychiatric epidemiology, 49*(4), 519-529.

Boydell, J., Van Os, J., McKenzie, K., Allardyce, J., Goel, R., McCreadie, R. G., & Murray, R. M. (2001). Incidence of schizophrenia in ethnic minorities in London: ecological study into interactions with environment. *Bmj, 323*(7325), 1336.

Branscombe, N. R., Schmitt, M. T., & Harvey, R. D. (1999). Perceiving pervasive discrimination among African Americans: Implications for group identification and well-being. *Journal of personality and social psychology, 77*(1), 135.

Cantor-Graae, E., & Selten, J.-P. (2005). Schizophrenia and migration: a meta-analysis and review. *American Journal of Psychiatry, 162*(1), 12-24.

Devos, T., & Banaji, M. R. (2005). American= white? *Journal of Personality and Social Psychology*, *88*(3), 447.

Devos, T., & Ma, D. S. (2008). Is Kate Winslet more American than Lucy Liu? The impact of construal processes on the implicit ascription of a national identity. *British Journal of Sociaol Psychology*, *47*(2), 191-215.

Elahi, A., Algorta, G. P., Varese, F., McIntyre, J., & Bentall, R. (2017). Do paranoid delusions exist on a continuum with subclinical paranoia? A multi-method taxometric study. *Schizophrenia Research*, *190,* 77-81.

Faris, R. E. L., & Dunham, H. W. (1939). Mental disorders in urban areas: an ecological study of schizophrenia and other psychoses. Oxford, England: University Chicago Press.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behavior research methods*, *41*(4), 1149-1160.

Fearon, P., Kirkbride, J. B., Morgan, C., Dazzan, P., Morgan, K., Lloyd, T., Hutchinson, G., Tarrant, G., Fung, W.L.A., Holloway, J., & Mallett, R. (2006). Incidence of schizophrenia and other psychoses in ethnic minority groups: results from the MRC AESOP Study. *Psychological medicine, 36*(11), 1541-1550.

Freeman, D., & Garety, P. (2014). Advances in understanding and treating persecutory delusions: a review. *Social psychiatry and psychiatric epidemiology, 49*(8), 1179-1189.

Freeman, D., Garety, P. A., Kuipers, E., Fowler, D., & Bebbington, P. E. (2002). A cognitive model of persecutory delusions. *British Journal of Clinical Psychology, 41*(4), 331-347.

Gajwani, R., Parsons, H., Birchwood, M., & Singh, S. P. (2016). Ethnicity and detention: are Black and minority ethnic (BME) groups disproportionately detained under the

Mental Health Act 2007?. *Social psychiatry and psychiatric epidemiology*, *51*(5), 703-711.

Greenaway, K. H., Haslam, S. A., Bingley, W. (2018). Are "they" out to get me? A social identity model of paranoia. *Group Processes and Intergroup Relations*, doi: 10.1177/1368430218793190

Greenaway, K. H., Haslam, S. A., Cruwys, T., Branscombe, N. R., Ysseldyk, R., Heldreth, C. (2015). From "we" to "me": Group identification enhances perceived personal control with consequences for health and well-being. *Journal of Personality and Social Psychology, 109*(1), 53.

Haslam, C., Cruwys, T., Haslam, S. A., Dingle, G., & Chang, M. X.-L. (2016). Groups 4 Health: Evidence that a social-identity intervention that builds and strengthens social group membership improves mental health. *Journal of affective disorders, 194*, 188-195.

Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling. In: University of Kansas, KS.

Hogg M.A. (2000) Social Identity and Social Comparison. In: Suls J., Wheeler L. (eds) Handbook of Social Comparison. The Springer Series in Social Clinical Psychology. Springer, Boston, MA

IBM Corp. (2016). IBM SPSS Statistics for Windows (Version 24.0). Armonk, NY: IBM Corp.

Janssen, I., Hanssen, M., Bak, M., Bijl, R., De Graaf, R., Vollebergh, W., . . . Van Os, J. (2003). Discrimination and delusional ideation. *The British Journal of Psychiatry, 182*(1), 71-76.

Jasinskaja-Lahti, I., Liebkind, K., Perhoniemi, R. (2006). Perceived discrimination and well-being: A victim study of different immigrant groups. Journal of community and applied social psychology *16*(4), 267-284.

Jetten, J., Branscombe, N. R., Haslam, S. A., Haslam, C., Cruwys, T., Jones, J. M., . . . Murphy, S. (2015). Having a lot of a good thing: Multiple important group memberships as a source of self-esteem. *PloS one, 10*(5), e0124609.

Jetten, J., Haslam, C., & Alexander, S. H. (2012). *The social cure: Identity, health and well-being*. New York: Psychology Press.

Kaney, S., & Bentall, R. P. (1989). Persecutory delusions and attributional style. *British Journal of Medical Psychology, 62*(2), 191-198.

Keating, F., & Robertson, D. (2002). Breaking the circle of fear: a review of mental health services to African and Caribbean communities. *Mental Health Promotion Update.*

Koneru, V. K., de Mamani, A. G. W., Flynn, P. M., Betancourt, H. J. A., & Psychology, P. (2007). Acculturation and mental health: Current findings and recommendations for future research. *12*(2), 76-96.

Krabbendam, L., & Van Os, J. (2005). Schizophrenia and urbanicity: a major environmental influence — c conditional on genetic risk. *Schizophrenia bulletin*, *31*(4), 795-799.

Lasar, M. (1997). Cognitive evaluation of action in chronic schizophrenia-Locus of control beliefs in an inpatient group. *Psychologische Beitrage 39*, 297-311.

Levenson, H. (1973). Multidimensional locus of control in psychiatric patients. *Journal of Consulting and Clinical Psychology, 41*(3), 397.

McElroy, E., McIntyre, J. C., Bentall, R. P., Wilson, T., Holt, K., Kullu, C., . . . Corcoran, R. (2019). Mental health, deprivation, and the neighbourhood environment: a network analysis. *Clinical Psychological Science*, doi: 10.1177/2167702619830640

McIntyre, J. C., Elahi, A., & Bentall, R. P. (2016). Social identity and psychosis: Explaining elevated rates of psychosis in migrant populations. *Social and Personality Psychology Compass, 10*(11), 619-633.

McIntyre, J. C., Wickham, S., Barr, B., & Bentall, R. P. (2017). Social Identity and Psychosis: Associations and Psychological Mechanisms. *Schizophrenia bulletin*, 44(3), 681-690. doi:10.1093/schbul/sbx110

McIntyre, J. C., Worsley, J., Corcoran, R., Harrison-Woods, P., & Bentall, R. P. (2018). Academic and non-academic predictors of student psychological distress: The role of social identity and loneliness. *Journal of Mental Health, 27(3), 230-239.*

Melo, S., Corcoran, R., Shryane, N., & Bentall, R. P. (2009). The persecution and deservedness scale. *Psychology and Psychotherapy: Theory, Research and Practice, 82*(3), 247-260.

Mendoza-Denton, R., & Page-Gould, E. (2008). Can cross-group friendships influence minority students' well-being at historically white universities? *Psychological Science, 19*(9), 933-939.

Morrison, A. P., Frame, L., & Larkin, W. (2003). Relationships between trauma and psychosis: A review and integration. *British Journal of Clinical Psychology, 42*(4), 331-353.

Pettigrew, T. F., & Tropp, L. R. (2008). How does intergroup contact reduce prejudice? Meta-analytic tests of three mediators. *Journal of Muslim Mental Health, 38*(6), 922-934.

Pieterse, A. L., & Carter, R. T. (2010). An exploratory investigation of the relationship between racism, racial identity, perceptions of health, and health locus of control among Black American women. *Journal of Health Care for the Poor and Underserved, 21*(1), 334-348.

Rippy, A. E., & Newman, E. J. J. o. M. M. H. (2006). Perceived religious discrimination and its relationship to anxiety and paranoia among Muslim Americans. *1*(1), 5-20.

Rohner, E. C., Chaille, C., Rohner, R. P. (1980). Perceived parental acceptance–rejection and the development of children's locus of control, *The Journal of Psychology, 104*(1-2), 83-86.

Rosenbaum, M., & Hadari, D. (1985). Personal efficacy, external locus of control, and perceived contingency of parental reinforcement among depressed, paranoid, and normal subjects. *Journal of personality and social psychology, 49*(2), 539.

Sani, F., Wakefield, J. R., Herrera, M., & Zeybek, A. (2017). On the Association Between Greater Family Identification and Lower Paranoid Ideation Among Non-Clinical Individuals: Evidence From Cypriot and Spanish Students. *Journal of Social and Clinical Psychology, 36*(5), 396-418.

Sapp, S. G., & Harrod, W. J. (1993). Reliability and validity of a brief version of Levenson's locus of control scale. *Psychological Reports, 72*(2), 539-550.

Shaikh, M., Ellett, L., Dutt, A., Day, F., Laing, J., Kroll, J., . . . Valmaggia, L. R. (2016). Perceived ethnic discrimination and persecutory paranoia in individuals at ultra-high risk for psychosis. *Psychiatry Research, 241*, 309-314.

Sharpley, M., Hutchinson, G., Murray, R. M., & McKenzie, K. (2001). Understanding the excess of psychosis among the African-Caribbean population in England: review of current hypotheses. *The British Journal of Psychiatry, 178*(S40), s60-s68.

Sibley, C. G., & Barlow, F. K. (2009). Ubiquity of whiteness in majority group national imagination: Australian= White, but New Zealander does not. *Australian Journal of Psychology, 61*(3), 119-127.

Thewissen, V., Bentall, R. P., Lecomte, T., van Os, J., & Myin-Germeys, I. (2008). Fluctuations in self-esteem and paranoia in the context of daily life. *Journal of abnormal psychology, 117*(1), 143.

Tropp, L. R. (2007). Perceived discrimination and interracial contact: Predicting interracial closeness among Black and White Americans. *Social Psychology Quaeterly, 70*(1), 70-81.

Turner, R. N., Hewstone, M., Voci, A., Vonofakou, C. (2008). A test of the extended intergroup contact hypothesis: The mediating role of intergroup anxiety, perceived ingroup and outgroup norms, and inclusion of the outgroup in the self. *Journal of Personality and Social Psychology, 95*(4), 843.

Van Os, J. I. M. (2004). Does the urban environment cause psychosis?. *The British Journal of Psychiatry*, *184*(4), 287-288.

Varese, F., Smeets, F., Drukker, M., Lieverse, R., Lataster, T., Viechtbauer, W., . . . Bentall, R. P. (2012). Childhood adversities increase the risk of psychosis: a meta-analysis of patient-control, prospective-and cross-sectional cohort studies. *Schizophrenia bulletin*, *38*(4), 661-671.

Veling, W., Selten, J.-P., Susser, E., Laan, W., Mackenbach, J. P., & Hoek, H. W. (2007). Discrimination and the incidence of psychotic disorders among ethnic minorities in The Netherlands. *International Journal of Epidemiology, 36*(4), 761-768.

Westermeyer, J. (1989). Paranoid symptoms and disorders among 100 among refugees: a longitudinal study. *Acta Psychiatrica Scandinavica, 80*(1), 47-59.

Wickham, S., Sitko, K., & Bentall, R. P. (2015). Insecure attachment is associated with paranoia but not hallucinations in psychotic patients: the mediating role of negative self-esteem. *Psychological medicine, 45*(07), 1495-1507.

Wickham, S., Taylor, P., Shevlin, M., & Bentall, R. P. (2014). The impact of social

    deprivation on paranoia, hallucinations, mania and depression: the role of

    discrimination social support, stress and trust, *PLoS One, 9*(8): e105140. doi:

    10.1371/journal.pone.0105140

Figures and Tables

Table 1.

Descriptive statistics and bivariate correlations.

Variable	*M*	*SD*	1	2	3	4	5	6
1. Paranoia	2.85	.85	-	-.50**	-.13*	.46**	-.12*	-.14*
2. Locus of Control	3.14	1.25	-	-	-.02	.29**	-.10	-.13*
3. Identification with GB	5.10	1.57	-	-	-	-.03	.31**	.25**
4. Negative Contact	3.31	1.42	-	-	-	-	-.15**	.03
5. Positive Contact	5.57	1.32	-	-	-	-	-	.11*
6. Self esteem	4.53	1.81	-	-	-	-	-	-

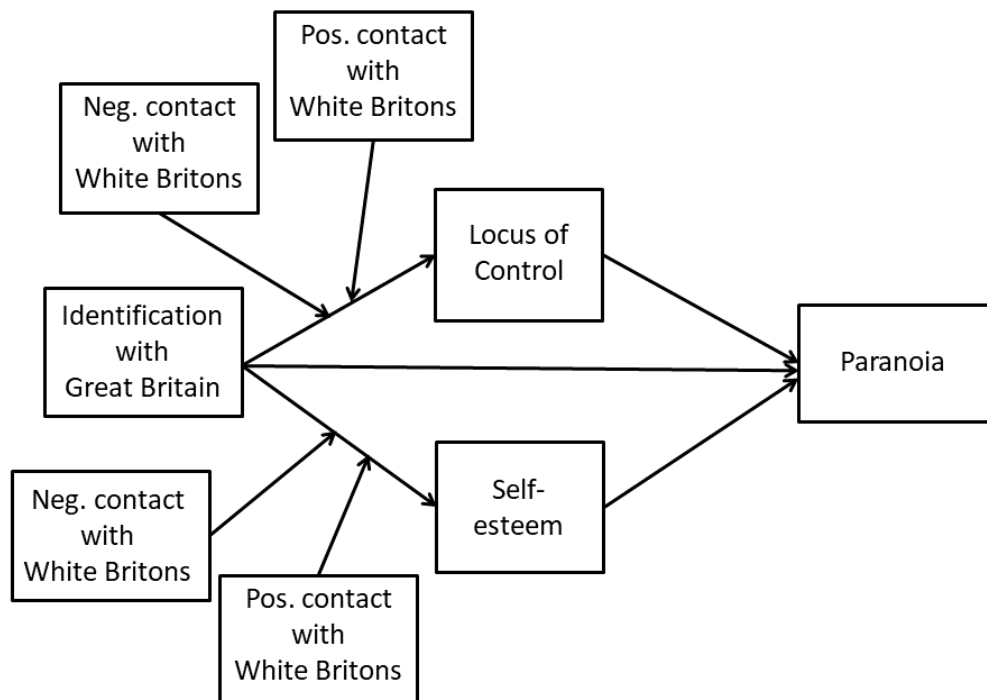* $p < .05$, ** $p < .01$, *** $p < .001$

Figure 1. Conceptual parallel moderated mediation regression model.

Table 2.

Unstandardized coefficients of parallel moderated mediation regression model.

			B	SE	95% CI
Self-esteem	On	British Identity	.85	.28	-.46, .63
		Positive White contact	-.10	.22	-.54, .34
		Negative White contact	.12	.24	-.35, .60
		Sex	-.65***	.19	-1.02, -.28
		Age	.01	.01	.01, .03
		British Identity X Positive White contact	.03	.04	-.05, .12
		British Identity X Negative White contact	-.01	.04	-.10, .07
Locus of Control	On	British Identity	-.01	.19	-.38, .36
		Positive White contact	.16	.15	-.13, .46
		Negative White contact	-.21	.16	-.53, .11
		Sex	-.19	.13	-.44, .06
		Age	-.00	.01	.01, .01
		British Identity X Positive White contact	-.05	.03	-.10, .01
		British Identity X Negative White contact	.08**	.03	.03, .14
Paranoia	On	British Identity	-.04	.03	-.09, .02
		Self-esteem	-.02	.02	-.06, .03
		Locus of control	.33***	.03	.26, .39
		Sex	-.03	.08	-.18, .12
		Age	-.01***	.00	-.02, -.01

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 3.

Unstandardized indirect effects of British identification on paranoia through locus of control

at low (-1 SD) and high (+1 SD) contact.

	B	*SE*	95% *CI*
Indirect effect at *low* **positive contact** and *low* **negative contact**			
GB identification → Locus of Control → Paranoia	-.02	.02	-.07, .03
Indirect effect at *low* **positive contact** and *high* **negative contact**			
GB identification → Locus of Control → Paranoia	.06*	.02	.02, .11
Indirect effect at *high* **positive contact** and *low* **negative contact**			
GB identification → Locus of Control → Paranoia	-.06*	.03	-.11, -.01
Indirect effect at *high* **positive contact** and *high* **negative contact**			
GB identification → Locus of Control → Paranoia	.02	.03	-.02,.08

* 95% CIs do not include zero.

Table 4.

Unstandardized indirect effects of British identification on paranoia through self-esteem at low (-1 SD) and high (+1 SD) contact.

	B	*SE*	95% *CI*
Indirect effect at *low* **positive contact** and *low* **negative contact**			
GB identification → Self-esteem → Paranoia	-.003	.006	-.021, .007
Indirect effect at *low* **positive contact** and *high* **negative contact**			
GB identification → Self-esteem → Paranoia	-.003	.006	-.023, .004
Indirect effect at *high* **positive contact** and *low* **negative contact**			
GB identification → Self-esteem → Paranoia	-.005	.009	-.023, .012
Indirect effect at *high* **positive contact** and *high* **negative contact**			
GB identification → Self-esteem → Paranoia	-.004	.008	-.026, .008

* 95% CIs do not include zero.