

Ethnic diversity, ethnic threat, and social cohesion: (re)-evaluating the role of perceived out-group threat and prejudice in the relationship between community ethnic diversity and intra-community cohesion

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ABSTRACT

Research frequently demonstrates diverse communities exhibit lower *intra*-community cohesion. Recent studies suggest there is little evidence perceived ethnic threat plays a role in this relationship. This paper re-examines the roles of ethnic threat and prejudice in the diversity/cohesion relationship. First, we test threat/prejudice as conceptualised in the literature: as *mediators* of diversity's effect. Second, we test a reformulation of the roles of threat/prejudice: as *moderators* of diversity's effect. Applying multi-level models to cross-sectional and longitudinal data of White British individuals across England and Oldham (a unique English town case-study) we find neighbour-trust lower in diverse communities. However, perceived-threat/prejudice does not mediate this relationship. Instead, we find perceived-threat/prejudice moderate diversity's impact on neighbour-trust. The result is diversity only reduces neighbour-trust among individuals who already viewed out-groups as threatening. Longitudinal analysis confirms the importance of out-group attitudes in the diversity/neighbour-trust relationship. In diverse communities, residents whose out-group attitudes improve, or worsen, become more, or less, trusting of their neighbours. However, in homogeneous communities, changes in out-group attitudes are not linked to changes in neighbour-trust. We therefore argue and demonstrate that perceived-threat emerges from other societal processes (such as socio-economic precariousness) and it is when individuals who *already* view out-groups as threatening experience diverse neighbourhoods that local cohesion declines.

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Introduction

Whether ethnic diversity poses a risk to social cohesion in society has received significant attention in academic, policy, and public spheres (Putnam 2007; Goodhart 2013; Casey 2016). Particular concern has focused on diversity in communities where there is a

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growing evidence-base that increasing community ethnic diversity appears to erode *intra*-community social cohesion (van der Meer and Tolsma 2014; Laurence and Bentley 2016; Dinesen and Sønderskov 2017). However, we still know very little about what mechanisms are in operation behind this relationship.

A number of theories are posited to account for this negative association. These range from theories emphasising people's more innate tendencies towards interacting, trusting, and co-operating with others (perceived to be) more similar to themselves, to theories arguing that the presence of ethnic out-groups leads individuals to feel more threatened, cultivating greater out-group prejudice. Research explicitly testing the mechanisms behind the impact of diversity on cohesion is sparse. However, drawing on the available literature, studies have suggested there is little evidence that cohesion is lower in diverse areas *due to greater perceived-threat* (Putnam 2007; van der Meer and Tolsma 2014; Dinesen and Sønderskov 2015). Current explanations therefore tend to focus on tendencies among people to more readily bond with their own ethnic group. This has resulted in a marginalisation of the role of threat and prejudice in explanations for why cohesion may decline with increasing diversity (Putnam 2007). This trend has worrying implications; not least because such findings can be drawn on to legitimate claims that diversity is antithetical to social cohesion given people are, in a sense, 'hardwired' to prefer their own group.

We suggest this marginalisation of the role of perceived-threat, and the prejudice posited to emerge from it, may be premature. Firstly, few studies have explicitly tested the mediating role perceived-threat is posited to play. Secondly, studies have largely focused on whether diverse communities generate perceived-threat, driving down cohesion. An alternative possibility is that ethnic diversity itself may not generate perceived-threat; instead, the threat may emerge from other societal processes, such as social and economic precariousness. However, when individuals who feel threatened by ethnic out-groups see their neighbourhoods becoming more diverse their local cohesion will decline. In other words, ethnic diversity may undermine local cohesion but only among individuals who *already* view ethnic out-groups as a threat.

This paper aims to explicitly explore what role perceived out-group threat and prejudice play in the relationship between ethnic diversity and intra-community cohesion. In particular, we aim to explore their role as commonly articulated in the literature (as a mediators of the impact of ethnic diversity). However, we will also test a reformulated role: as moderators of the impact of diversity. In addition, we examine what processes may cultivate threat in society – in particular socio-economic status – and the role such processes may play in the diversity/cohesion relationship via fostering greater perceived-threat. We posit that it may only be when such threat-generating processes, such as socio-economic marginality, intersect with increasing diversity that cohesion will decline. To test these ideas, we apply cross-sectional analyses to two UK data sets. However, in a key innovation, we also marshal longitudinal data to more robustly explore how far the association between neighbour-trust and the diversity of one's locale may be conditional on one's out-group attitudes.

Theoretical framework

Ethnic diversity and (intra-community) social cohesion

Interest in how ethnic diversity affects cohesion followed Putnam's (2007) formative paper demonstrating how residents of ethnically diverse communities reported lower social

capital. To account for this, he posited the ‘constrict hypothesis’: that diversity undermines relations between *all* people (not just between ethnic groups), leading residents to ‘hunker down’, withdrawing from wider social life. This work triggered extensive research testing the robustness of this finding. Although the literature generally presents mixed evidence for the negative diversity/cohesion relationship, a largely consistent pattern emerges when studies focus on community diversity and indicators of *intra*-community cohesion: residents of more diverse *local* areas tend to evince less *intra*-community cohesion (for reviews see van der Meer and Tolsma 2014; Dinesen and Sønderskov 2017). Longitudinal analysis applying fixed-effects methods has demonstrated robust evidence this effect is likely causal (Laurence and Bentley 2016). Reviews of the literature thus conclude ‘there is consistent support for the constrict claim for aspects of social cohesion that are spatially bounded to neighbourhoods’ (van der Meer and Tolsma 2014, 459). However, despite the volume of research, we still know little about the processes in operation underpinning this negative relationship.

Mechanisms in the ethnic diversity/social cohesion relationship: the role of perceived-threat and prejudice

Different theories have been suggested to account for the negative diversity/cohesion relationship. On one hand, studies draw on mechanisms such as anomie, latent in-group trust biases, and homophily (Gijssberts, Van Der Meer, and Dagevos 2011; van der Meer and Tolsma 2014). Under these theories, local cohesion declines because trust/cohesion form more readily among ethnically similar individuals; this is due, for example, to shared social norms, individuals’ tendencies to prefer to interact with their own group, or latent biases towards viewing one’s own ethnic group as more trusting/honest (Messick and Brewer 1983; Glaeser et al. 2000; McPherson, Smith-Lovin, and Cook 2001). Thus, it is actual/perceived *differences* alone between ethnic groups driving lower cohesion.

On the other hand, studies have drawn on the threat hypothesis. This hypothesis suggests that increasing out-group size in a community engenders perceptions of threat among residents, which increases prejudice towards out-groups, in turn undermining social cohesion (Blalock 1967; Putnam 2007; Lancee and Dronkers 2011; Laurence 2011). The role of perceived-threat in the local-diversity/local-cohesion relationship is composed of two tenets: firstly, individuals in more ethnically diverse communities are more likely to report perceived-threat and prejudice; secondly, individuals who report more perceived-threat/prejudice report lower local cohesion (Figure 1).

To our knowledge, only Schmid, Al Ramiah, and Hewstone (2014) have explicitly tested both tenets of the threat hypothesis to look at whether perceived-threat *mediates* the negative effect of diversity on cohesion. Although they find both local-diversity and individuals’ perceived-threat are negatively associated with neighbour-trust, they find that threat is not higher in more diverse communities and observe no negative indirect-effect of diversity on neighbour-trust via threat.¹ There is far more research exploring the first tenet of the threat hypothesis: that increasing ethnic diversity generates perceived-threat and prejudice (Kaufmann and Goodwin 2016). Yet, the evidence for this first tenet is mixed, with any effects of out-group size on perceived-threat/prejudice appearing conditional on other factors (e.g. area size studied; van der Meer and Tolsma 2014; Kaufmann and Goodwin 2016).

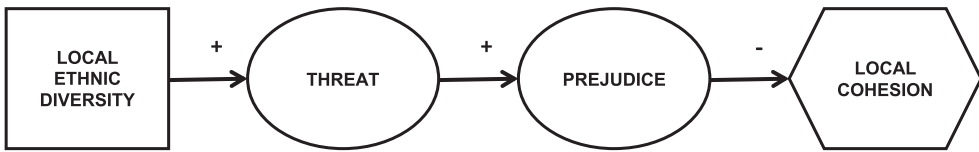


Figure 1. Current formulation of the roles of threat/prejudice in the diversity/cohesion relationship: threat/prejudice as mediators.

Notes: solid line represents direct effect.

This lack of a clear relationship between diversity and threat/prejudice has been drawn on by studies reviewing the diversity/cohesion literature to suggest that perceived-threat is unlikely to account for why cohesion is lower in diverse communities (van der Meer and Tolsma 2014; Dinesen and Sønderskov 2015). This has resulted in a minimisation of the role of perceived-threat/prejudice for explaining the diversity/cohesion relationship. Putnam (2007) himself argued against threat being the driver of ‘hunkering down’ given both inter-group and intra-group trust were lower in diverse areas, suggesting diversity instead harms relations between *all* individuals. This has led to a greater focus on theories such as anomie/homophily for explaining the impact of diversity (although again there are few explicit tests of these mechanisms; *for exceptions, see* Koopmans and Schaeffer 2016). However, this marginalisation of threat/prejudice may be premature. The role of perceived-threat (and negative out-group attitudes in general) may be potentially more complicated than currently specified. We suggest that present operationalisations (as mediator alone) may under-specify the role of negative out-group attitudes.

Reformulation of the role of perceived-threat and prejudice: out-group attitudes as moderator

As discussed, the current theoretical framework suggests that diversity will stimulate threat, threat cultivates prejudice, which in turn undermines local cohesion (see Figure 1). This explanation hinges on the idea that diversity generates threat/prejudice. However, even though diversity may not engender perceived-threat/prejudice, such pejorative out-group attitudes could still help explain why increasing diversity is associated with lower local cohesion if they *moderate* the impact of ethnic diversity on local cohesion, i.e. diversity may reduce local cohesion but only among individuals who hold more negative views of ethnic out-groups.

Current studies tend to focus on the *overall* association between local diversity and local cohesion and, on finding a negative relationship, generally infer that residents experience an equal likelihood of reporting lower cohesion in diverse areas, i.e. that the processes undermining cohesion in diverse areas are active among all residents (e.g. Putnam 2007; Laurence 2011; van der Meer and Tolsma 2014). However, behind the overall association may lie substantial heterogeneity between individuals in how diversity affects their reported social cohesion. One driver of this heterogeneity may be how individuals view ethnic out-groups: local cohesion may be more likely to suffer when individuals with pejorative views of ethnic out-groups live in local areas with more out-group neighbours. Cohesion may therefore be a product of both the ethnic composition of one’s community *but also* an individual’s perceptions of, and attitudes towards, ethnic out-groups (Hodson and Dhont 2015).

As discussed, controlling for other factors, rates of perceived-threat/prejudice appear generally equally distributed across *local* areas. However, threat and prejudice have a range of drivers in society, such as sociotropic concerns about the economy and ‘self-interest’ theories regarding one’s personal economic/social situation (Hainmueller and Hopkins 2014). For example, studies show that individuals in lower socio-economic positions tend to feel ethnic minorities pose a greater threat to their status, fomenting prejudicial attitudes (Ford and Goodwin 2010). Therefore, although diversity itself may not generate negative views of out-groups, whether an individual views out-groups negatively or not could still determine how they react to living in a diverse community. In ethnically homogeneous communities, holding pejorative *out*-group attitudes is unlikely to lead individuals to develop negative views of their neighbours given all their neighbours will be co-ethnics. However, when those individuals who view out-groups negatively see the diversity of their community increase, their views of their neighbours may deteriorate as their neighbours become increasingly from ethnic out-groups. At the same time, individuals who do not view out-groups negatively will likely remain unaffected by the diversity of their community as the ethnic composition of their neighbours is unlikely to affect their perceptions of their local area.² Individuals’ perceived-threat and prejudice may therefore *moderate* how they respond to high-diversity communities.

In sum, living in a more diverse community may not trigger increasing levels of perceived-threat and prejudice among residents. However, these out-group attitudes, as driven by other processes in society, may still play a role in the diversity/cohesion relationship if increasing diversity triggers a decline in intra-community cohesion when individuals who *already* hold more negative out-group views are exposed to diverse neighbourhoods. This reformulation can be summarised in Figure 2: both perceived-threat and prejudice may emerge from various sources in a society which, in turn, moderate the effect of diversity; or, these external sources may cultivate perceived-threat, triggering prejudice which, in turn, moderates the effect of diversity.

There is some support for this model in the literature. Lundåsen and Wollebæk (2013) show in Sweden that holding pejorative views on ‘neighbourhood cultural diversity’ has a negative impact on neighbour-trust; however, this effect increases the more diverse an

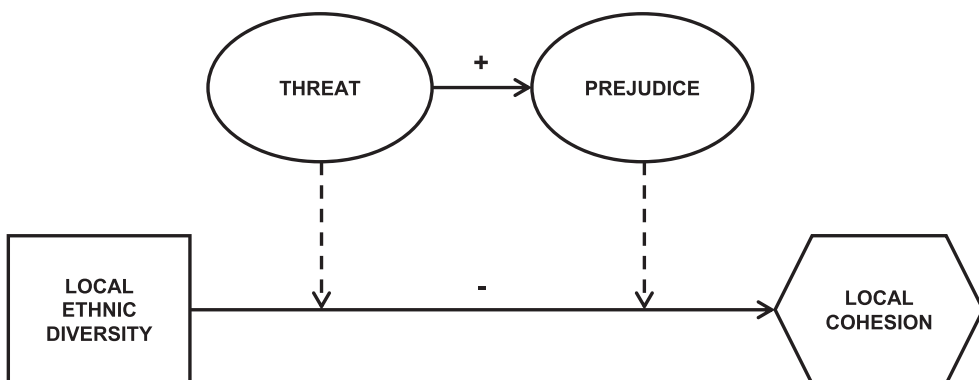


Figure 2. Reformulation of the roles of threat/prejudice in the diversity/cohesion relationship: threat/prejudice as moderators.

Notes: solid line represents direct effect; dashed line represents moderating effect.

individual's community. The corollary of this is that higher community diversity is more negatively related to neighbour-trust among those with more negative views of cultural diversity. Relatedly, in the US, Alesina and La Ferrara (2000) show that the negative impact of ethnic heterogeneity on civic participation is stronger among individuals with a greater aversion to out-group mixing. Potential evidence of this reformulation can also be read in studies of inter-ethnic contact in the diversity/cohesion relationship. Increasing diversity has a weaker negative effect on local cohesion among individuals with better quality inter-group contact. This suggests that ethnic diversity only undermines local cohesion among individuals *without* such contact who, in theory, carry more negative out-group views (although this is not explicitly tested) (Laurence 2011; Górny and Toruńczyk-Ruiz 2014).

Summary

The aim of this paper is to explore the roles of perceived ethnic out-group threat and prejudice in accounting for the negative association between local diversity and local cohesion. We outline two modes by which perceived-threat, and any resulting prejudice, might operate in the diversity/cohesion relationship. The first is the account commonly articulated in the literature of perceived-threat/prejudice as *mediator*: that exposure to diverse communities changes people's views of ethnic out-groups, which in turn changes their views of their communities. The second mode is that other factors in society affect people's views of ethnic out-groups; however, these attitudes determine how an individual reacts to ethnic diversity in their neighbourhood. This is the reformulated role of threat/prejudice: as *moderator*.

Data and methodology

Data and samples

This paper draws on two data sets. The 2010 Managing Cultural Diversity Survey (MCDS) is a two stage random-location quota sample, designed to produce a representative sample of adults in England. The second data set is the 2011–2012 two-wave Managing Ethnic Diversity Oldham (MEDO) panel survey. The MEDO is also a two-stage random-location quota sample, designed to produce a representative sample of adults in Oldham (a town in the conurbation of Greater Manchester, UK). Wave 1 was conducted between October and December 2011. Wave 2 field work was conducted between July and September 2012. The data do not follow individuals who moved home; however, the short period of time between waves means the loss of respondents from moving is likely very low (Champion 2005). Contextual-level data on the characteristics of respondents' communities for both data sets are drawn from the 2011 UK Census.

The community will be measured at the Middle Super Output Area (MSOA) geographic-level. MSOAs are designed by the UK Office for National Statistics (ONS) to be approximately the same size (mean $n = 7200$), regular shapes, and constrained by obvious boundaries (e.g. roads). The present study focuses on the White British population. Processes of perceived-threat, especially emerging from one's local community, are believed to have greater salience among majority populations (Oliver and Wong 2003). Furthermore, much of the public/policy debate has focused on the 'risks' of

moving away from a homogeneous society and thus understanding the processes affecting cohesion among the White British group is important. In the MCDS, our analytic sample is $n = 806$ (across 206 MSOAs) (of $n = 868$ White British interviewed). This involves the loss of $n = 62$ with missing data on our key variables. In the MEDO, the analytic sample for both waves is $n = 313$ (across 32 MSOAs) (of $n = 622$ White British interviewed in wave 1). This involves the loss of $n = 258$ from the wave-1 survey³ (an overall wave-2 response rate of 60%)⁴ and $n = 51$ with missing data on our key variables. Weights are applied to account for missing cases (both from missing data on key variables and wave-2 attrition).⁵

Data contexts: England and Oldham

Studying this question across England (using the MCDS) is of high importance. England has seen a significant rise in the proportion of non-White British, with the 2001–2011 censuses recording an increase from 13% to 20.2%. At the same time, concern exists in the UK that this diversification may be engendering hostility among segments of society (Casey 2016); for example, anti-immigrant attitudes were believed to play a significant role in the United Kingdom's decision to leave the European Union. Using Oldham as a study-site (MEDO data) will complement this intra-national analysis of England. Firstly, it provides a key replication test. Secondly, it provides a unique opportunity to robustly study our question longitudinally, being, to our knowledge, the only panel data available in England with measures of both local cohesion and inter-group attitudes. Thirdly, Oldham is of substantive interest to questions of inter-ethnic group relations in England. In 2001, Oldham was the site of some of the most intense urban rioting (perceived to be ethnically motivated) that occurred across a number of UK towns and cities (Amin 2003). Exploring whether similar relationships between ethnic diversity, social cohesion, and perceived-threat operate at a site of historical inter-group tensions, as across England as a whole, will shed important light on what might drive (and also ameliorate) any local cohesion deficits in ethnically diverse areas.

Key variables

Community size and ethnic diversity

To measure community ethnic diversity, we use the Simpson's Fractionalisation Index, grouping the UK Census ethnicity categories into 10 sub-groups, including: 'White British', 'Other White', 'Pakistani', 'Bangladeshi', 'Indian', 'Asian Other/Asian-Mixed', 'Black Caribbean/Black-Mixed/Black Other', 'Black African/Mixed', 'Chinese', and 'Other/Mixed'.

$$\text{Ethnic diversity}_j = 1 - \sum_k S_{kj}^2,$$

where j stands for the neighbourhood area and k for the ethnic group.

We use the diversity index for maximum comparability with current studies, coded as 0 (completely homogeneous) to 1 (completely heterogeneous). However, in many European countries, indices of ethnic diversity are highly correlated with ethnic minority-share

(Gijssberts, Van Der Meer, and Dagevos 2011; Schaeffer 2013). This is the case in our data as well, with the diversity index and per cent non-White British essentially indistinguishable.⁶

As mentioned, the community will be measured at the MSOA level. The association between ethnic diversity and measures of cohesion can vary by the scale at which the community is measured, with negative associations increasing at smaller scales (e.g. Dinesen and Sønderkov 2015). Due to risks of disclosure, the MSOA is the smallest area available to analyse the community in our data. However, when answering questions on their neighbourhood, respondents are first asked: 'I'd like to ask you about your local area or neighbourhood. By that, I mean the area within 15–20 minutes walking distance of your home.' This area size corresponds more closely to the MSOA level.

Intra-community cohesion

Local cohesion is measured through reported trust in one's neighbours, with identical measures available in both data sets. Respondents are asked: 'would you say that ... none of the people in your neighbourhood can be trusted, a few can be trusted, some can be trusted or that many of the people in your neighbourhood can be trusted?' This variable is coded 0–3, where 3 corresponds to 'many can be trusted'. Spontaneous replies of 'just moved here', 'depends or don't know' were coded as missing.⁷ Trust in one's neighbours is also the most frequently applied measure of local cohesion in the field, allowing us to maximise comparability (e.g. Putnam 2007).

Perceived out-group threat and prejudice

To capture perceived-threat in the MCDS, we generate an index composed of questions tapping realistic-threats: 'People from ethnic minority backgrounds take good jobs away from white British people', 'The more political and economic power people from ethnic minority backgrounds have in this country, the more difficult it is for white British people', and 'People from ethnic minority backgrounds commit a lot of crime that affects white British people'. We also apply two questions capturing symbolic-threat: 'People from ethnic minority backgrounds and white British people have very different values' and 'People from ethnic minority backgrounds threaten white British people's way of life'. Response-options were on a Likert-scale of 1 (strongly disagree) to 5 (strongly agree). Factor analysis of these items showed they load on to a single index of 'perceived-threat', where higher values correspond to greater perceived-threat (Eigen Value: 2.43; Cronbach's Alpha: 0.83; lowest loading: 0.57). To measure prejudice in the MCDS, we use a feeling thermometer: 'Please rate how you feel about the following groups on a thermometer that runs from zero to a hundred degrees. How do you feel about people from an ethnic minority background?' (where higher values correspond to warmer feelings and 50 is neither warm nor cold).

Although an advantage of the MEDO data is the longitudinal structure, the data do not contain identical measures of perceived-threat to the MCDS. Therefore, in the MEDO data, we can only perform a comparable analysis of the role of prejudice (posited to emerge from higher perceived-threat). The MEDO data contain a similar feeling thermometer measure that allows us to capture this. Individuals are asked: 'Please rate how you feel about the following groups on a thermometer that runs from zero to a hundred degrees. How do you feel about people of Pakistani and Bangladeshi background?' The question asks about Pakistanis and Bangladeshis given these are the

largest ethnic minority group in Oldham (composing, on the whole, 18% of Oldham and 74% of the minority population in Oldham in 2011).

Controls

We adjust our models for a range of individual-level socio-demographic characteristics. These include marital status; number of people in the household; religion; employment status; born in/outside of the UK; gender; age; qualification level; length of time lived in the community; and tenancy type. In the MCDS data, we also control for a social grade of one's occupation, although this is not available in the MEDO data. In the MEDO analysis, we control for survey mode. We also adjust for a number of potential community-level (MSOA) confounders. These include two indices of socio-economic disadvantage, constructed from factor analysis performed on a range of community characteristics: status disadvantage (per cent not in managerial/professional occupations, per cent without degrees: Eigen Value 1.89); and resource disadvantage (per cent of households social renting, per cent of households female lone-parent, per cent of economically active unemployed: Eigen Value 1.97). We also include the '2010 index of multiple-deprivation: crime domain' (a composite index of all types of crime) and an indicator of whether a community is in an urban/rural area.

Analytical approach

We begin performing cross-sectional analyses, across England as a whole, using the MCDS data. As respondents are clustered within communities we apply random-coefficient multi-level regression models. Given our use of cross-level (level-1 \times level-2) interactions to test whether individuals' attitudes (level-1) moderate community diversity (level-2), the (level-1) coefficient for inter-ethnic attitudes is allowed to vary across (level-2) communities. We will then explore whether any emerging cross-sectional findings across England can be replicated in Oldham, using the first wave of the MEDO data. This analysis will test the mediating/moderating role of prejudice (but not perceived-threat) using the measure of warmth/coldness towards Pakistanis and Bangladeshis. This measure will be applied as a proxy for general warmth/coldness towards all ethnic minorities. Testing suggests this measure likely acts as an effective proxy for prejudice towards out-groups generally (not just towards Pakistanis and Bangladeshis).⁸ We will then explore how these processes operate longitudinally using both waves of the MEDO data, applying two-wave change-score models (Johnson 2005). Given there is approximately one year between waves we cannot explore changes in our community-level data (including ethnic diversity); only changes in our individual-level characteristics.⁹ However, we can test the longitudinal relationship between changes in inter-group attitudes and changes in neighbour-trust *at different fixed levels of community ethnic diversity* over a one-year period. This will perform a more robust test of the theory that the impact of local ethnic diversity on local cohesion depends on one's attitudes towards ethnic out-groups. We can test whether *changes* in out-group attitudes elicit *changes* in neighbour-trust at higher but not lower *levels* of community diversity. Via two-wave change-score modelling, this longitudinal analysis will also help account for time-invariant unobserved heterogeneity (Johnson 2005).

Results

Ethnic diversity, local cohesion, and perceived threat/prejudice across England

The first stage is to explore the role of perceived-threat/prejudice as frequently conceptualised in the literature: as mediators of the diversity/cohesion relationship. This will be tested cross-sectionally across England using the MCDS (Table 1). Model 1 explores the association between community ethnic diversity and neighbour-trust. In line with much of the current evidence-base, respondents in more diverse communities report lower neighbour-trust. Figure 3(A) plots this association using predicted neighbour-trust scores derived from Model 1. Models 2 and 3 test the association between ethnic diversity and threat and prejudice, demonstrating that diversity is not positively associated with perceived out-group threat or negatively associated with out-group warmth. Models 4 and 5 examine the associations between threat/prejudice and neighbour-trust, demonstrating that individuals reporting greater perceived-threat do report lower neighbour-trust, while those exhibiting less prejudice report higher neighbour-trust. Model 6 then formally tests whether the negative association between ethnic diversity and neighbour-trust is mediated by threat/prejudice. However, the negative relationship between ethnic diversity and neighbour-trust remains largely unchanged. We therefore observe no evidence that either perceived-threat or prejudice mediate the negative local cohesion/neighbour-trust association (unsurprising given that neither threat nor prejudice is higher in diverse areas).

The second stage is to test the reformulated role of perceived-threat/prejudice in the diversity/cohesion relationship: as moderators of ethnic diversity's effect. Model 7 examines this by including an interaction term between local-diversity and perceived-threat, which is highly significant and negative.¹⁰ Model 8 tests the interaction between local diversity and out-group warmth, which is significant and positive.¹¹ Model 9 includes the diversity/threat and diversity/prejudice interactions together in the same model: the diversity/threat interaction is largely unchanged and significant while the diversity/prejudice interaction is reduced and rendered non-significant. The moderating role of prejudice therefore largely appears to be driven by its association with perceived-threat.

Whether an individual perceives out-groups as a threat thus strongly moderates how ethnic diversity affects their neighbour-trust. To understand this inter-relationship Figure 3(B) plots predicted scores of neighbour-trust across the diversity spectrum but subdivides individuals into *tertiles of the index of perceived threat* (low, medium, and high). These predicted scores are generated from Model 10. Individuals reporting low threat report equal levels of neighbour-trust regardless of the diversity of their community. However, among those individuals reporting medium, and especially high, threat living at higher levels of neighbourhood diversity is associated with lower levels of neighbour-trust.

Drawing our findings together, we find evidence that local diversity is negatively associated with neighbour-trust, but no evidence that it predicts greater threat or prejudice, nor that threat or prejudice mediate any of the negative local-diversity/-cohesion association. However, there is evidence for the reformulated role of negative out-group attitudes: when individuals who report the greater threat or higher prejudice live among more ethnically diverse neighbours their neighbour-trust declines, with greater perceived-threat appearing to be the main driver of this. Therefore, despite the evidence against the threat hypothesis as typically operationalised in the literature (as mediator) perceived-threat does play an important role (as moderator) in the association between diversity and local cohesion.¹²

Table 1. Community ethnic diversity, trust in neighbours, and the roles of perceived-threat and prejudice among White British in England (MCDS).

Dependent variable	Model 1 Neighbour trust	Model 2 Perceived threat	Model 3 Feeling thermometer	Model 4 Neighbour trust	Model 5 Neighbour trust	Model 6 Neighbour trust	Model 7 Neighbour trust	Model 8 Neighbour trust	Model 9 Neighbour trust	Model 10 Neighbour trust
Index of crime	-0.058 (0.057)	-0.045 (0.067)	-0.003 (0.029)	-0.064 (0.057)	-0.058 (0.057)	-0.063 (0.057)	-0.081 (0.057)	-0.063 (0.057)	-0.081 (0.057)	-0.081 (0.057)
Status disadvantage	-0.091* (0.043)	0.013 (0.052)	0.007 (0.022)	-0.089* (0.043)	-0.093* (0.043)	-0.090* (0.043)	-0.092* (0.043)	-0.096* (0.043)	-0.095* (0.043)	-0.097* (0.043)
Resource disadvantage	0.031 (0.053)	0.028 (0.061)	-0.001 (0.026)	0.033 (0.052)	0.031 (0.052)	0.033 (0.052)	0.039 (0.052)	0.034 (0.052)	0.039 (0.052)	0.044 (0.052)
Baseline: rural										
Urban	-0.001 (0.066)	0.053 (0.085)	-0.027 (0.033)	-0.002 (0.066)	0.004 (0.066)	0.001 (0.065)	-0.007 (0.066)	-0.005 (0.066)	-0.009 (0.066)	-0.029 (0.066)
Ethnic diversity	-0.508*** (0.147)	-0.087 (0.184)	0.082 (0.074)	-0.520*** (0.145)	-0.525*** (0.146)	-0.528*** (0.145)	-0.495*** (0.146)	-0.971*** (0.273)	-0.730* (0.286)	0.061 (0.214)
Perceived threat				-0.137*** (0.030)		-0.118*** (0.032)	-0.025 (0.047)		-0.017 (0.050)	
Feeling thermometer					0.216** (0.068)	0.121+ (0.072)		0.062 (0.105)	0.048 (0.111)	
Ethnic diversity × perceived threat							-0.358** (0.117)		-0.322** (0.125)	
Ethnic diversity × feeling thermometer								0.542* (0.281)	0.273 (0.296)	
Baseline: perceived threat Q1										0.079
Perceived threat Q2										(0.108)
Perceived threat Q3										0.079
Ethnic diversity × perceived threat Q2										(0.101)
Ethnic diversity × perceived threat Q3										-0.511+
										(0.266)
										-0.949***
										(0.245)
N	806	806	806	806	806	806	806	806	806	806
Log likelihood	-765.98	-899.98	-268.36	-755.63	-761.01	-754.24	-750.96	-759.15	-749.02	-752.17

Notes: All models include individual-level covariates (although not shown); random-coefficient multi-level models are applied (with the feeling thermometer and perceived threat measures allowed to vary across MSOAs); cross-sectional MCDS data.

*** $p < .001$.

** $p < .01$.

* $p < .05$.

+ $p < .1$.

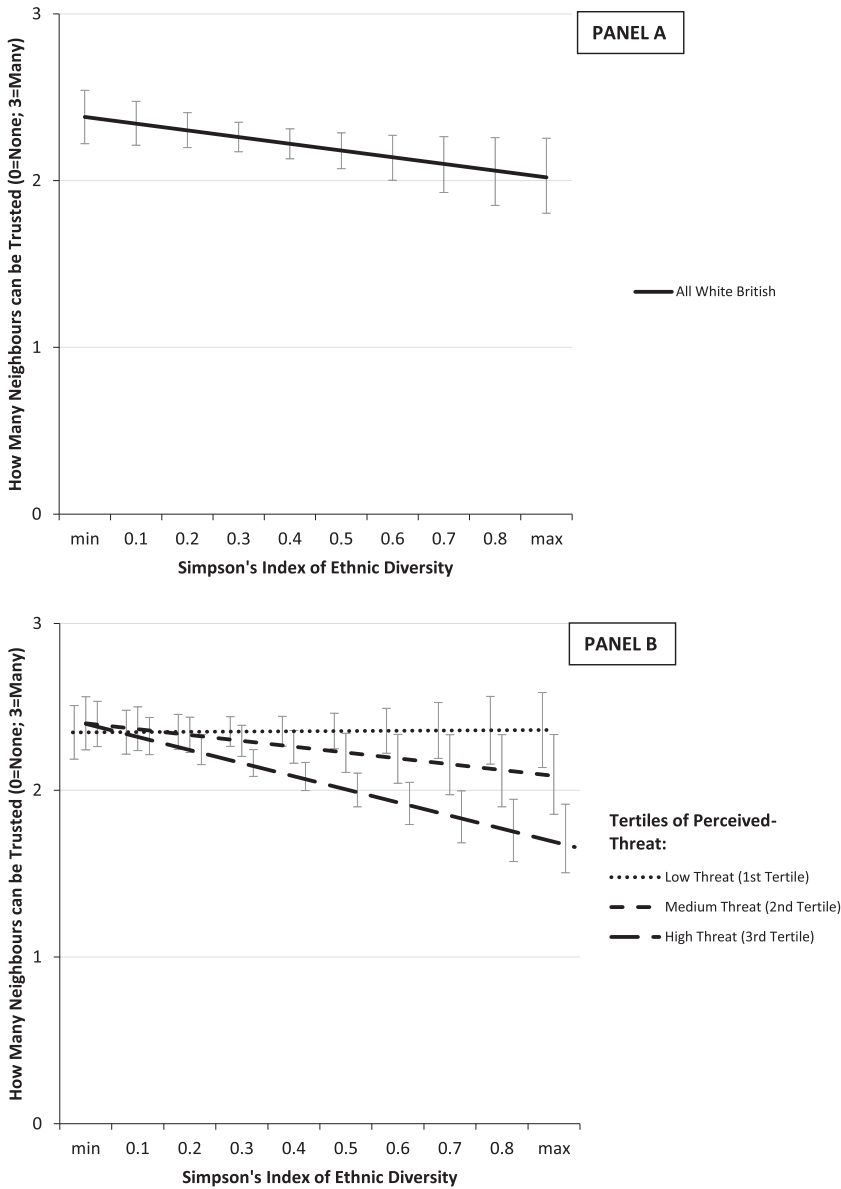


Figure 3. Predicted neighbour-trust scores across community ethnic diversity (Panel A), and subdivided by levels of White British individuals' perceived ethnic out-group threat (Panel B), in England (MCDS). Notes: Min = 0.01; Max = 0.86.

As observed, local diversity is not, on average, associated with greater threat.¹³ Instead, we suggested that other factors in society are likely to drive threat and that where these factors intersect with community diversity neighbour-trust is likely to decline. One example of this we can test in our data is the role of social class. Studies show that lower social classes report greater threat, in part, due to greater economic/social precariousness (Ford and Goodwin 2010). Individuals occupying lower social class positions may therefore respond more negatively to increasing local diversity

Table 2. Moderators of the impact of community ethnic diversity on trust in neighbours among White British, in England: socio-economic class as a driver of perceived-threat (MCDS).

Dependent variable	Model 1 Neighbour trust	Model 2 Neighbour trust
Index of crime	-0.062 (0.058)	-0.076 (0.057)
Status disadvantage	-0.099* (0.043)	-0.098* (0.042)
Resource disadvantage	0.043 (0.052)	0.047 (0.052)
Baseline: rural		
Urban	-0.005 (0.067)	-0.026 (0.066)
Ethnic diversity	-0.093 (0.215)	0.170 (0.240)
Baseline: social grade A/B		
Social grade C1/C2	0.078 (0.105)	0.038 (0.105)
Social grade D/E	-0.117 (0.132)	-0.158 (0.133)
Ethnic diversity × social grade C1/C2	-0.498* (0.233)	-0.265 (0.240)
Ethnic diversity × social grade D/E	-0.606* (0.293)	-0.319 (0.301)
Baseline: perceived threat Q1		
Perceived threat Q2		0.019 (0.107)
Perceived threat Q3		0.010 (0.101)
Ethnic diversity × perceived threat Q2		-0.358 (0.263)
Ethnic diversity × perceived threat Q3		-0.739** (0.251)
<i>N</i>	806	806
Log likelihood	-769.03	-756.85

Notes: All models include individual-level covariates (although not shown); random-coefficient multi-level models are applied (with perceived threat measures allowed to vary across MSOAs); cross-sectional MCDS data.

*** $p < .001$.

** $p < .01$.

* $p < .05$.

+ $p < .1$.

because they are more likely to view ethnic out-groups as a threat. Table 2 reports tests of this idea.

Model 1 demonstrates how local diversity has a stronger negative association with neighbour-trust among those in lower social classes C1/C2 (Supervisory, clerical and junior managerial, administrative, professional occupations; Skilled manual occupations), and D/E (Semi-skilled and unskilled manual occupations, Unemployed and lowest grade occupations) compared to those in higher social classes A/B (Higher and intermediate managerial, administrative, professional occupations), among whom it has no effect. In Model 2, we re-enter our tertiles of perceived-threat and their interactions with local diversity. Subsequently, the interactions between social class and ethnic diversity are reduced by around 50% and rendered non-significant. Thus, the stronger negative association between community diversity and neighbour-trust among low socio-economic classes appears to be a consequence of the greater perceived-threat evinced by individuals in lower socio-economic classes.

Ethnic diversity, local cohesion and prejudice in oldham: a longitudinal analysis

We next aim to explore these processes in the social context of Oldham. We begin by replicating the cross-sectional test we performed across England but in Oldham using the first wave of the MEDO data (Table 3). Model 1 demonstrates that White British residents in more diverse communities again report lower neighbour-trust. Figure 4 (A) demonstrates this with predicted neighbour-trust scores plotted across the diversity spectrum (derived from Model 1). Model 2 uses the measure of warmth/coldness towards ‘Pakistanis and Bangladeshis’ to tap general prejudice towards ethnic out-groups: as across England, ethnic diversity has no association with prejudice. Model 3 then tests whether out-group warmth mediates the negative diversity/trust association. Colder out-group attitudes are associated with lower neighbour-trust. However, the negative association between diversity and neighbour-trust is not substantially mediated by prejudice. Model 4 then tests whether the impact of local diversity on neighbour-trust is moderated by warmth towards out-groups: the interaction is significant and positive.¹⁴ Although we cannot test it directly, given what our analysis across England demonstrated, we believe this measure of prejudice is likely picking up the moderating role of perceived-threat among residents. To explore the implications of this Figure 4(B), plots predicted neighbour-trust scores across the diversity-spectrum at three different levels of out-group warmth¹⁵ (cool = 25; medium = 50; warm = 75). This figure demonstrates how higher local diversity appears to undermine neighbour-trust but only as attitudes towards minorities become colder.

We next use the panel element of the Oldham data to partially test whether these processes operate longitudinally. This will go some way toward addressing individual-level time-invariant unobserved heterogeneity. Furthermore, given individuals in our data

Table 3. Cross-sectional analysis of community ethnic diversity, trust in neighbours, and the role of prejudice among White British, in Oldham (MEDO).

Dependent variable	Model 1 Neighbour trust	Model 2 Feeling thermometer	Model 3 Neighbour trust	Model 4 Neighbour trust
Index of crime	-0.001 (0.039)	-1.684 (1.269)	0.010 (0.038)	0.016 (0.038)
Status disadvantage	-0.074 (0.063)	1.920 (2.435)	-0.088 (0.060)	-0.085 (0.058)
Resource disadvantage	-0.133+ (0.081)	0.977 (3.036)	-0.139+ (0.077)	-0.161* (0.075)
Baseline: rural				
Urban	0.298 (0.497)	11.240 (16.763)	0.218 (0.482)	0.268 (0.476)
Ethnic diversity	-0.762* (0.300)	-4.887 (11.358)	-0.729* (0.286)	-2.028** (0.704)
Feeling thermometer			0.007*** (0.002)	0.003 (0.003)
Ethnic diversity × feeling thermometer				0.023* (0.012)
N	312	312	312	312
Log likelihood	-300.81	-1378.36	-293.65	-291.7

Notes: All models include individual-level covariates (although not shown); random-coefficient multi-level models are applied (with the feeling thermometer measures allowed to vary across MSOAs); cross-sectional MCDS data.

*** $p < .001$.

** $p < .01$.

* $p < .05$.

+ $p < .1$.

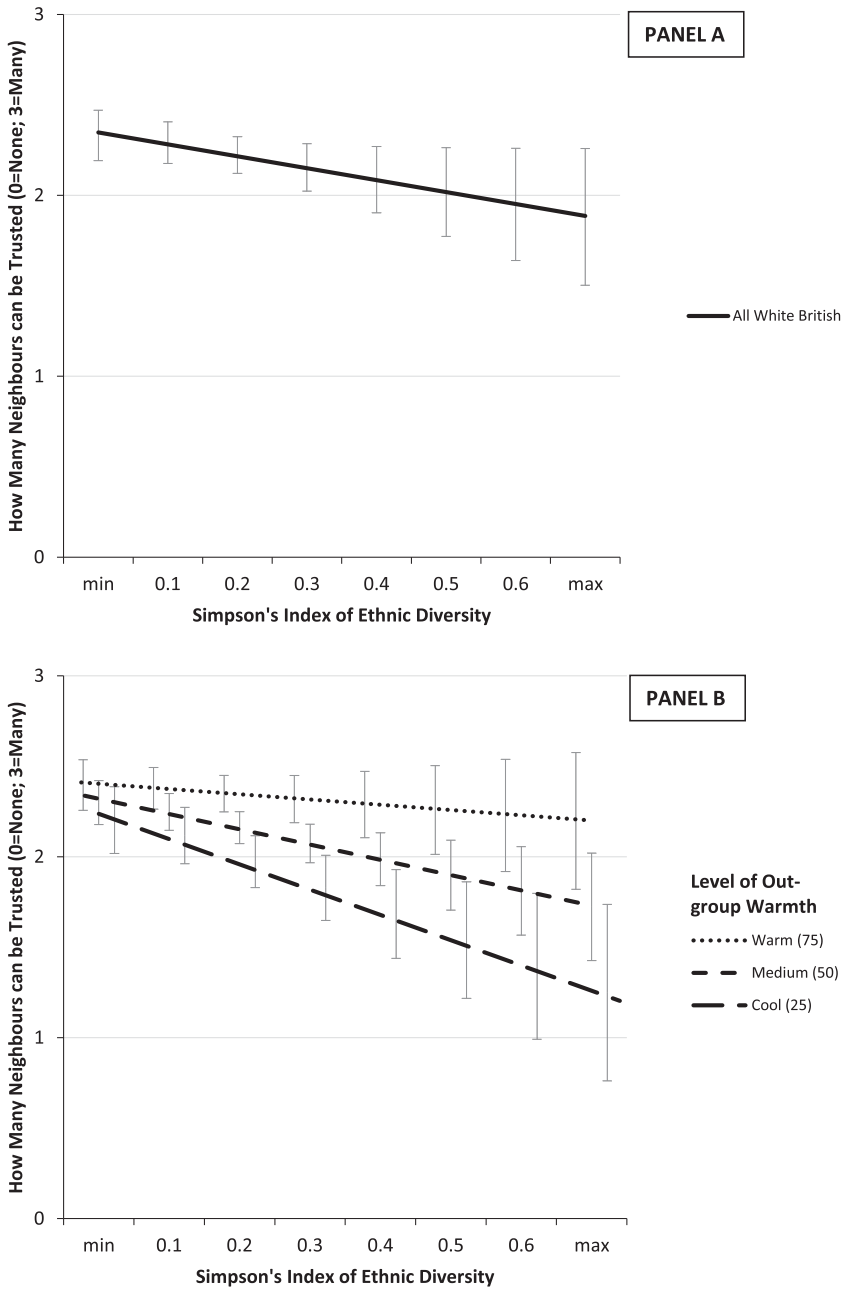


Figure 4. Predicted neighbour-trust scores across community ethnic diversity (Panel A), and subdivided by levels of White British individuals’ out-group warmth (Panel B), in Oldham (MEDO).

Notes: Min = 0.04; Max = 0.70.

did not move over the period, we can also address whether selection-processes are the sole driver of the findings thus far. Importantly, we find that even over a one-year period, and among individuals who do not move, change occurs in our key variables: 47% of respondents see their neighbour-trust change, with similar proportions seeing trust increase

Table 4. Two-wave change-score analysis of community ethnic diversity, trust in neighbours, and the role of prejudice among White British, in Oldham (MEDO).

Dependent variable	Model 1 Change in neighbour trust	Model 2 Change in neighbour trust
Ethnic diversity	-0.071 (0.244)	-0.211 (0.230)
Change in feeling thermometer	0.003 (0.002)	-0.002 (0.003)
Ethnic diversity × change in feeling thermometer		0.025* (0.011)
<i>N</i>	313	313
Log likelihood	-590.25	-585.35

Notes: All models include individual-level and community-level covariates (although not shown); random-coefficient multi-level models are applied (with the feeling thermometer measures allowed to vary across MSOAs); longitudinal MEDO data.

*** $P < .001$.

** $P < .01$.

* $P < .05$.

+ $P < .1$.

(22%) as decrease (25.2%). We see an even greater flux in our measure of out-group attitudes: 78% change their attitudes, with 30.67% becoming colder and 47.28% becoming warmer.

Table 4 shows the results of a series of two-way change-score models, in which neighbour-trust and out-group attitudes are change-score variables ($\text{time}_0 - \text{time}_{-1}$) and ethnic diversity is fixed at its 2011 value.¹⁶ Model 1 shows that, over a one year period, individuals at higher levels of diversity do not become more/less trusting of their neighbours. It also shows that, contrary to the cross-sectional model, a change in attitudes towards ethnic out-groups is not associated with a change in neighbour-trust. We next test whether the effect of living in a diverse community on neighbour-trust depends on one's attitudes towards out-groups. To do so, Model 2 includes an interaction term between the *level* of community diversity and the *change* in out-group attitudes. Therefore, it tests whether one's neighbour-trust changes in response to a change in attitudes towards out-groups, but conditional on the level of community diversity in which an individual lives. The interaction is significant and positive, suggesting positive changes in attitudes are associated with positive changes in neighbour-trust but only at higher levels of diversity. To explore the implications of this, we graph predicted changes in neighbour-trust at different fixed levels of ethnic diversity but for three scores of changes in out-group attitudes: individuals becoming colder towards out-groups (a decrease of 50 points), individuals becoming warmer (an increase in 50 points), and individuals experiencing no change in attitudes (Figure 5).

Figure 5 demonstrates that in homogeneous areas, a change in out-group attitudes has no association with a change in neighbour-trust. However, in diverse areas, individuals who become warmer (colder) towards ethnic out-groups see their trust in their neighbours increase (decrease). We can combine these findings with those from Figure 4. If someone with a negative view towards out-groups lives among more out-group neighbours they are likely to distrust their neighbours. However, if this *same* individual becomes more positive towards out-groups their trust in neighbours increases. Similarly, someone with positive out-group attitudes living in a diverse area is likely to trust their neighbours. If this *same* individual sees their out-group attitudes worsen their

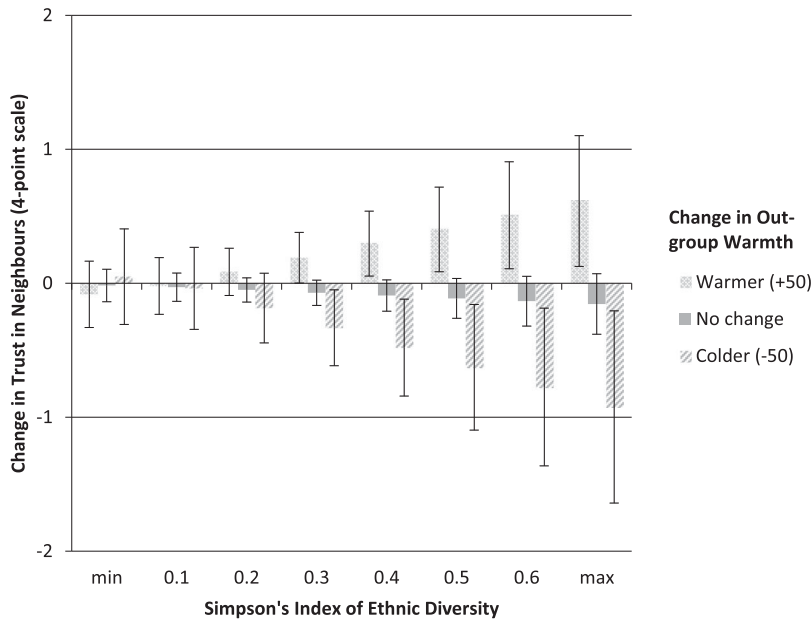


Figure 5. Predicted *changes* in neighbour-trust at different *levels* of ethnic diversity and for different *changes* in White British individuals' out-group warmth, in Oldham (MCDS).

Notes: Min = 0.04; Max = 0.70.

neighbour-trust declines.¹⁷ Individuals in more homogeneous communities who see their out-group attitudes change see no substantive change in their neighbour-trust.

Discussion

Extensive research has demonstrated that intra-neighbourhood cohesion is lower in more diverse communities to the extent that such findings are becoming an 'empirical regularity' (van der Meer and Tolsma 2014, 471). However, we still know little about what mechanisms are operating among residents which results in depressed cohesion. One theory for the negative association is that as diversity increases residents experience greater perceived-threat and prejudice, undermining community cohesion. Yet, studies suggest there is little support for this theory, which has led to a marginalisation of the role of perceived-threat (and prejudice generally) for understanding the lower local cohesion observed in diverse communities.

This paper aimed to re-examine the role of perceived-threat and prejudice in the diversity/cohesion relationship. We find that, across England as a whole and within the case of Oldham, local cohesion appears weaker in diverse areas. However, this is not because perceived-threat and prejudice increase in more diverse communities: we find little evidence that pejorative out-group attitudes mediate the negative local-diversity/-cohesion relationship. Therefore, as prior studies suggest, there is little support for the threat hypothesis as frequently conceived in the literature. However, prejudice and especially perceived-threat do moderate the association between ethnic diversity and local cohesion. The result is that diversity is only negatively associated with

neighbour-trust among individuals who perceive out-groups as a threat; among individuals with low perceived-threat increasing diversity has no effect on neighbour-trust. This supports our key conjecture: how living in a diverse area affects neighbour-trust depends on one's attitudes towards out-groups.

Longitudinal analysis significantly strengthens the evidence for the importance of out-group attitudes in the diversity/cohesion relationship. Importantly, even over a short space of time, and among individuals who do not move house, individuals' neighbour-trust in diverse communities can change synchronously with changes in their out-group attitudes: those whose attitudes improve become more trusting in diverse environments while those who see their out-group attitudes cool see their neighbour-trust decline. Critically, in homogeneous communities, a change in out-group attitudes is not linked with a change in neighbour-trust.

An important question is whether those residents with higher perceived-threat, who report lower neighbour-trust in diverse communities, differentiate their trust between *in*-group neighbours and *out*-group neighbours. One might expect that viewing out-groups as a greater threat will only be associated with distrusting one's *out*-group neighbours. However, studies have demonstrated that residents in diverse communities report less trust in both *in*- and *out*-group neighbours (Tolsma and van der Meer 2017). One possibility is that 'hunkering down' does occur with increasing diversity, where residents of diverse communities withdraw from wider social life, leading to less *in*- and *out*-group trust. However, it may only occur among individuals who perceive ethnic out-groups as a threat. In other words, increasing exposure to out-group neighbours may trigger residents who view out-groups as a threat to withdraw from their communities, undermining trust in both their *in*-group neighbours as well as their *out*-group neighbours. Such a withdrawal from *in*-group neighbours may be exacerbated when the presence of out-groups in a community opens up cleavages among *in*-group members regarding the acceptance of ethnic diversity in the community (Williamson 2015). This can trigger majority-group residents to 'grapple with unsettling questions: Do people like me disagree with me? Are my community members no longer on my side?' which may foment *in*-group distrust (Williamson 2015, 1733).

These findings make important contributions to the field. Firstly, they elucidate one mechanism that can help understand why diverse communities appear to have lower cohesion. While diversity does not appear to increase threat, perceived-threat does emerge from other sources in society. For those residents who do perceive out-groups as a threat, increasing exposure to diverse communities and neighbours leads them to become increasingly distrustful of their neighbours. One example of this process, as demonstrated in the paper, is the role of lower socio-economic status. Diversity exerts a stronger negative effect on local cohesion among lower SES groups. This relationship appears to be largely a consequence of the higher perceived-threat reported by these groups. Therefore, a key mechanism behind the decreasing cohesion with higher diversity appears to be antipathy towards ethnic out-groups among some residents (in particular perceived-threat). However, critically, diversity itself does not appear to foment these attitudes; instead, they are driven by other forces in society (such as social/economic inequalities), in turn, determining when diversity undermines individuals' cohesion.

These findings also help to understand why, *on average*, trust is lower in diverse communities while the threat is, *on average*, no higher. This stems from two drivers. Firstly,

how perceived-threat affects neighbour-trust depends on the ethnic composition of one's neighbours: it is only in more diverse (not more homogeneous) communities that higher perceived-threat appears to trigger lower neighbour-trust. Secondly, the average amount of threat in society is of a sufficient level that individuals in both the second and third tertiles of perceived-threat experience a significant decline in neighbour-trust as community diversity increases. Only individuals in the first tertile remain unaffected. Thus, when communities become diverse, the chances are neighbour-trust will, *on average*, decline given the average levels of perceived-threat among people in England.

The second contribution this paper makes is bringing the role of perceived-threat back into the diversity/cohesion debate. Recently, studies have focused on processes such as homophily/anomie as explanations. This paper shows that threat and prejudice do play a critical part. This is not to say the processes such as homophily are not in operation; just that such processes are unlikely to account for the entire relationship between diversity and cohesion, and dynamics of inter-group relations remain important.

The third key contribution is the observation that how the characteristics of an individual's everyday environment affects their outcomes depends, in part, on their prior perceptions/views. These perceptions/views appear to act as filters which condition individuals' attitudinal and behavioural reactions to their environment, driving heterogeneity in the effect of place on residents' outcomes. This conditioning process may extend to various contextual-effects observed in the current literature, providing new insights into the processes underpinning contextual-effects.

Notwithstanding the contributions of this work, there are some caveats to these conclusions. A key note is that part of the conclusions of this paper rest on the lack of an association between local ethnic diversity and perceived-threat. However, there may be reasons to challenge this idea. Firstly, social desirability in surveys can lead respondents to underreport their perceived-threat (Janus 2010). It is thus possible that diversity may lead to more threat, lowering neighbour-trust, but that social desirability effects depress the diversity/threat association. Secondly, self-selection may mean that the overall cross-sectional association between diversity and threat is, in part, a result of less (more) threatened/prejudiced people moving *into (out of)* diverse communities. Thus, the impact of diversity on threat may be suppressed, although unique longitudinal work has suggested that selection is unlikely to drive all of the impacts of diverse environments on inter-group attitudes (Kaufmann and Harris 2015) Thirdly, the lack of an *overall* association between local diversity and perceived-threat might mask important heterogeneity between individuals and communities regarding *when* diversity generates perceived-threat. One possibility is that unmeasured variables, for example, authoritarianism, may lead some individuals to experience particularly negative reactions to living in diverse environments. In this case, increasing ethnic diversity may trigger greater threat and prejudice but only among individuals with higher authoritarianism (Stenner 2005; van Assche et al. 2014; van Assche et al. 2017). This could, in turn, trigger declining neighbour-trust with increasing diversity but again only among more authoritarian residents. Similarly, different community conditions could (de)activate when living in diverse neighbourhoods triggers perceived-threat; for example, it may be when individuals living in more segregated wider-communities experience increasing diversity in their immediate neighbourhoods (that is, in those neighbourhoods at the boundaries between predominantly ethnic majority and minority areas) that perceived-threat is triggered, and thus

neighbour-trust reduced (Laurence 2017). In sum, there remain reasons to believe ethnic diversity could (at least for certain individuals/communities) generate perceived-threat, in turn, decreasing neighbour-trust (i.e. substantiating the threat hypothesis as originally conceived in the literature). However, the current evidence is not consistent.

There are also some limitations to be noted. Firstly, this paper has focused on neighbourhood trust in particular. How far the same processes might operate for more generalised forms of cohesion, such as civic engagement, requires further analysis. Relatedly, it is important to note that, apart from perceived-threat, the use of single-item measures, such as neighbour-trust or feeling thermometers, to capture complex concepts such as intra-community cohesion or prejudice, is not ideal. Future research will benefit from the use of broader sets of measures. Secondly, the cross-sectional nature of some of this analysis means we must be cautious about causality. However, the longitudinal analysis helps address some of the issues of time-invariant individual-level unobserved heterogeneity and some issues related to self-selection. In particular, that absent of changes in ethnic diversity, among residents who do not move house, we observe that perceived-threat and neighbour-trust can change, and that their co-relationship appears dependent on a fixed-level of ethnic context. Thirdly, an alternative interpretation of our findings is that increasing ethnic diversity only increases perceived-threat among individuals who do not trust their neighbours i.e. local cohesion buffers the negative effects of diversity on perceived-threat. Future longitudinal research which can unpick this relationship will be important.

Conclusion

The academic debate into how ethnic diversity in society affects social cohesion has had significant impacts on the public sphere. One result of this has been concerns that ethnic diversity and cohesion are potentially antithetical, given ‘tendencies’ among humans to prefer their own ethnic group. This paper demonstrates, however, that diversity does not impact all individuals equally and that perceived-threat and prejudice play a key role in understanding when and for whom ethnic diversity affects cohesion, at least *within* communities. Furthermore, the paper shows that addressing the processes generating threat is a key lever to tackling problems of lower cohesion in diverse communities. One driver of this from the literature is building more positive inter-group contact. As demonstrated, changes in people’s attitudes towards out-groups, especially in diverse communities, can go a long way towards reversing declining cohesion in such areas.

Notes

1. In fact, Schmid, Al Ramiah, and Hewstone (2014) argue that diversity has an indirect positive effect on local trust via *lower* threat which stems from diversity stimulating higher contact in diverse areas
2. Holding more positive views of ethnic out-groups could potentially lead to more positive views of one’s community in more diverse areas.
3. We do not know the exact *n* of respondents that moved. However, of the *n* = 258 respondents lost between wave-1 and wave-2, the majority (*n* = 153) resulted from requests reported at the completion of the wave 1 survey not be re-contacted; not from moving.
4. This wave-1/wave-2 attrition rate is in line with other large-scale panel surveys, e.g. UK Understanding Society survey.

5. Weighted and unweighted results are similarly providing some evidence the observable factors driving attrition may not be biasing our findings.
6. They are correlated at $r = .96$ (across England) and $r = .93$ (across Oldham).
7. We explored whether excluding these cases biased on our analysis. Using multinomial logistic regression models we replicated our analysis but included 'depends or don't know', and 'moved here' as categories alongside the more substantive options of 'trust many' to 'trust none'. However, we found results for the substantive options ('trust many' to 'none') remained unchanged. Furthermore, neither diversity nor threat had significant associations with the 'depends'/'don't know'/'just moved here' responses.
8. The Pakistani/Bangladeshi Feeling Thermometer is applied here as a proxy for general warmth/coldness towards all ethnic out-groups. Separate analysis of the 2008 British Social Attitudes survey demonstrates how feeling thermometers towards one ethnic out-group (including Asians) are highly correlated with feeling towards other ethnic out-groups, loading on to a single, robust index of attitudes towards all ethnic out-groups (see online Appendix A2). Thus, this variable should capture how warmth/coldness towards all ethnic out-groups (not just Pakistanis/Bangladeshis) mediates/moderates the relationship between ethnic diversity and local trust.
9. This is because community diversity is unlikely to change substantially over a period of a year, and data on the ethnic composition of MSOAs are only available every 10-years via the decennial UK Census.
10. The significant, negative diversity coefficient in this moderation-model represents the association between diversity and trust when perceived-threat is set to 0, which corresponds to the mean-value for perceived-threat, as the measure is a standardised index. Therefore, at the average levels of threat in our sample diversity has a negative association with neighbour-trust.
11. The significant, negative diversity coefficient in this moderation-model represents the association between diversity and trust when the feeling thermometer is set to 0, which corresponds to cold feelings towards ethnic out-groups. Therefore, among individuals with cold attitudes towards ethnic out-groups diversity has a negative association with neighbour-trust.
12. Perceived-threat also moderates the negative association between diversity and neighbourhood-attachment, perceived disorder, perceptions of reciprocity, and local belonging.
13. Studies outline how perceived-threat may be driven more by the recent change in (rather than the level of) diversity; the area size at which ethnic diversity is measured; or the particular ethnic groups in the area (Bowyer 2009; Kaufmann 2014; Kaufmann and Goodwin 2016). However, initial testing of these ideas did not change our substantive conclusions (*results available on request*).
14. We conduct additional tests of whether warmth towards 'Pakistanis and Bangladeshis' is picking up general out-group attitudes. Online Appendix B1 demonstrates how warmth towards 'Pakistanis and Bangladeshis' moderates the effect of per cent Pakistani and Bangladeshi on neighbour-trust. However, it also moderates the effects of a range of other non-White British groups, including the effects of per cent Black, per cent Other Asian, and per cent Other Ethnic Group on neighbour-trust as well.
15. We set the feeling thermometer at these predicted values given that 50 represents a 'neutral' opinion towards Pakistanis/Bangladeshis. Plus and minus 25 points from 50 is used to capture those with warmer and colder attitudes as the standard deviation for the feeling thermometer measure is 24 points. Therefore, predicted values of 75 and 25 are essentially 1 standard deviation from the neutral point.
16. Control variables included at $t-1$ value: individual-level: survey mode, tenure, religion, qualifications, gender, and country of birth; community-level: urban vs rural, resource disadvantage, skill disadvantage, IMD crime. Control variables included as change-scores: individual-level: employment status, age, and marital status.
17. We replicate all findings substituting the ethnic diversity index for per cent Pakistani/Bangladeshi. We also replicate all models using *both* diversity and per cent Pakistani/

Bangladeshi to explore whether one is picking up the other. However, when both are included the main relationship becomes non-significant. This likely stems from multi-collinearity, given the two are correlated at $r = .88$. Thus, at least for White British, partialling out the relative importance of diversity over per cent Pakistani/Bangladeshi in Oldham is difficult.

Disclosure statement

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Appendix

Table A1. Descriptive statistics of key variables (MCDS; MEDO).

Key variable	Mean	Standard deviation	Minimum	Maximum
<i>MCDS</i>				
Neighbour trust	2.257	0.768	0 (none can be trusted)	3 (many can be trusted)
Out-group feeling thermometer	61.2	22.632	0 (cold)	100 (warm)
Index of perceived out-group threat	-0.023	0.922	-1.916	2.074
Ethnic diversity	0.337	0.238	0.016	0.863
<i>MEDO</i>				
Neighbour trust	2.246	0.785	0 (None can be trusted)	3 (Many can be trusted)
Pakistani and Bangladeshi feeling thermometer	58.304	22.145	0 (cold)	100 (warm)
Ethnic diversity	0.187	0.178	0.041	0.709