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Authors
Wickes, R
Hipp, J
Laughland-Booÿ, J

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Ethnic diversity, social identity, and social withdrawal: Investigating Putnam's constrict thesis

Wickes, Rebecca

Hipp, John R.

Laughland-Booy, Jacqueline

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Abstract

Since Putnam introduced his constrict thesis in 2007, many researchers have established that ethnic diversity lowers perceptions of social cohesion, at least in the short term. The connection between ethnic diversity and social behaviour, however, is less certain. In this paper we draw on social distance and social identity theories to empirically test if ethnic diversity encourages behaviours linked to social withdrawal. Using data from a longitudinal panel study of urban communities in Australia, we examine the influence of social distance on neighbourhood ties, neighbourly exchange, and civic engagement and assess if an individual's social identity (ethnic or civic) strengthens or weakens these relationships. We find individuals that endorse an ethnic identity are more likely to engage in social withdrawal behaviours. Withdrawal is also more likely in neighbourhoods where individuals distort the presence of minorities.

Introduction

Over 271 million people worldwide currently reside outside of their country of birth (International Organization for Migration, 2020). While immigration can bring economic and cultural benefits to receiving nations (Goldin, Cameron and Balarajan, 2012), there is some evidence that ethnic diversity creates social distance, which in turn compromises social connectedness and trust. This can lead 'natives' and 'non-natives' alike to withdraw or 'hunker down' from social life (Putnam, 2007, p. 137).

Social distance is broadly defined as the degree of perceived difference between one's own group and members of another group (Simmel, 1955; Blau, 1977; 1987). Race and ethnicity are significant markers of social distance that fundamentally structure social networks in society (McPherson, Smith-Lovin and Cook, 2001). Putnam's (2007) 'constrict' theory contends that ethnic diversity is a powerful social distance cue that creates a shared uncertainty about who 'belongs' in the neighbourhood. Putnam argues that in areas where there is increasing ethnic diversity, local residents may be less clear about the norms that guide interactions. When ethnic diversity is perceived as too great, at least in the short-term, it can erode "both in-group and out-group solidarity" (Putnam, 2007: 144), leading to lower levels of trust, fewer social interactions and lower levels of participation in civic activities/organisations. In contrast, a 'common identity' can be more readily assumed in ethnically homogenous neighbourhoods, promoting a sense of closeness and common experience in these places (Putnam, 2007). Thus, social distance and social identity are strongly linked.

Putnam's (2007) constrict thesis has received considerable attention over the past decade[1] with many studies concentrating on the effect of ethnic diversity[2] on perceptions of social cohesion. Yet van der Meer and Tolsma (2014) identify two significant issues in the scholarship that limit an understanding of how ethnic diversity intersects with social life. The first is that 'hunkering', or social withdrawal, a concept core to Putnam's constrict thesis, is not often the focus of research. Studies instead tend to focus on perceptual measures of social cohesion (Alesina and La Ferrara, 2002; Gijsberts, van der Meer and Dagevos, 2012; Stolle, Soroka and Johnston, 2008). Whether ethnic diversity negatively impacts upon behaviours or actions – observable via levels of social networks, interaction, and participation – is unclear.

The second limitation in the literature is theoretical. Across the vast majority of research concerned with testing Putnam's constrict theory, there is an overreliance on threat or contact theories. As van der Meer and Tolsma (2014, p. 472) observe, the dearth of theoretical focus in the literature 'has only increased the cacophony of seemingly contrary empirical findings' on the link between ethnic diversity and social withdrawal. This was recently echoed in a meta-analysis of the diversity-trust association by Dinesen and colleagues (2019). Although many studies have observed that group threat is a by-product of ethnic diversity, this is not always the case (van der Meer and Tolsma 2014). Instead, diversity may prompt different responses in different contexts. Theorising these processes remains under-explored.

In this paper, we test the tenets of Putnam's original argument against the influence of social distance and social identity salience on social withdrawal. We argue that social distance is more than just the objective presence of ethnic diversity (Merton, 1965) – it is what it

[1] Putnam's paper 'E Pluribus Unum: Diversity and Community in the Twenty-first Century' has over 5000 citations according to Google Scholar.

[2] For brevity, 'ethnic diversity' hereafter refers to ethnic, racial, and cultural diversity. We recognise that racial diversity is a concept used in the U.S., referring to visible differences in skin colour. In non-U.S. contexts where diversity is driven by immigration and ethnic differences (in particular language and religion), ethnic diversity is more the commonly used term. Given our research was conducted in Australia, an ethnically diverse, immigrant nation, we use ethnic diversity throughout this manuscript.

represents in a given neighbourhood context. For example, in disadvantaged neighbourhoods where residents also come from different ethno-racial backgrounds, ethnic diversity may be viewed 'threatening' and thus on its own signifies neighbourhood problems (Wickes et al., 2013). In other neighbourhood contexts, ethnic diversity signals a 'special type of urban space' that is highly desirable as evidenced in Anderson's (2004: 21) ethnography of cosmopolitan canopies. Here people from different racial and ethnic backgrounds come together to partake in dining, shopping or entertainment and the ethno-racial diversity is a feature that signifies harmony and inclusion. Thus, ethnic diversity and the extent to which it triggers social distance and social identity is contextual and varies across neighbourhoods. We therefore argue that in order to effectively assess Putnam's thesis, we need to consider the intersection of ethnic diversity, social distance and social identity.

Literature Review

Ethnic diversity and social distance

The homophily principle, which underpins Putnam's (2007) constrict thesis, states that social interaction is more likely to occur between people who share particular characteristics. Although age and gender strongly influence homophilous interactions, ethnicity and cultural practice are also consequential for the formation of social networks (McPherson et al., 2001; Newman and Dale, 2007). When individuals originate from the same ethnic background, social interaction is more likely to occur. Conversely, when individuals from different ethnic, racial or cultural backgrounds come together, social interaction may be hindered by a perception that they do not share the same values. This is in line with Putnam's (2007) claim that neighbourhood ethnic diversity leads to social withdrawal because individuals are socially distant from one another. Social distance therefore creates a state of uncertainty, which van der Meer and Tolsma (2014, p. 463) argue manifests in various ways, from

‘individual anxiety about the existence of shared societal norms and moral values, to social disorganization of the environment’ (see also Dinesen, Schaeffer and Sønderskov, 2019).

Most studies equate social distance with objective levels of ethnic diversity in a given neighbourhood or community and then assess the link between the presence of outgroups with one or more indicators of social cohesion (e.g. Dincer, 2011; Stolle, Soroka and Johnston, 2008). A limitation with this approach is that it does not capture the *perceived* differences between individuals. Social distance is more than a metric of categorisation of ethnicity and culture, or what others refer to as ‘structural homophily’ (McPherson and Smith-Lovin, 1987). Rather, it represents both the objective structural characteristics *and* the subjective perceptions of a neighbourhood’s composition.

Hipp and Wickes (2016) argue that two mechanisms of social distance are particularly important when considering the relationship between the ethnic or cultural composition of a given area and social withdrawal. First, a neighbourhood’s inter-ethnic network structure is a product of its composition and represents an important dimension of social distance. Actual intergroup social ties, at both an individual and neighbourhood level, are determined by the probability of inter-ethnic exchange within the neighbourhood. In areas where there are few ethnic minorities, there are fewer chances to form inter-ethnic ties. Thus, the absence of ties is not necessarily a function of choice, but of opportunity. By contrast, in areas with more ethnic minorities, there are more opportunities to form inter-ethnic ties. In these contexts, when there are fewer reported inter-ethnic ties than what we would expect by chance, this indicates greater social distance (Hipp and Wickes, 2016).

Ethnic diversity is only consequential for social life if people are both aware of, and concerned with, ethnic difference in their neighbourhoods (Chiricos, McEntire and Gertz, 2001; Hipp and Wickes, 2016). It is what ethnic and cultural diversity signifies that

influences participants' attitudes, beliefs or actions (negative or positive). For instance, in some diverse neighbourhoods enduring biases that associate particular minorities with negative stereotypes may create anxiety, whereas in other neighbourhoods ethnic diversity represents a cosmopolitan and desirable atmosphere (Anderson, 2004; Landry and Wood, 2012). Emerging evidence suggests that individuals who overestimate the presence of minorities report more disorder and less cohesion than those who underestimate minority presence (Wickes et al., 2013; Hipp and Wickes, 2016). Thus, *minority status distortion*, is influenced by perceptions of the neighbourhood context and is likely an important determinant of social withdrawal.

Hipp and Wickes (2016) investigated the influence of neighbourhood ethnic composition, intergroup interaction and minority status distortion on social capital in nearly 300 neighbourhoods within two Australian cities. They found that people who deviated from the expected number of intergroup ties (either higher *or* lower) were also lower on social capital and this relationship was more pronounced for white participants than non-white participants. Further, participants with high minority status distortion were lower on social capital than those with low minority status distortion. This suggests that the neighbourhood context has a greater effect on the attitudes and actions of certain groups, indicating that diversity and the social distance that may come from diversity is likely to affect some members of the community more than others. Social distance, either observed or perceived, is therefore likely to trigger exclusive understandings of who 'belongs'. We argue that social identity salience is therefore a critical, yet underdeveloped link in the diversity-hunkering association.

Ethnic diversity, social distance and national or ethnic identity salience

How members of a given nation define their identity can influence perceptions towards ethnic diversity and difference (e.g. McCrone and Bechhofer, 2008; Meeus et al., 2010). In some

contexts, individuals may lay claim to group membership as a function of shared ethnic and cultural ancestry. National belonging built on the basis of the ethnic identity of the most dominant group can result in the exclusion of those who do not share the same ethnic and cultural characteristics. Alternatively, national belonging may be defined through a strong communal commitment to shared rights, responsibilities and values (Miller, 1995; Smith 1991, 2006). When national group membership is overarched by strong civic representations, there is theoretically greater scope for unity between those who are ethnically different, but who share the commitments of a common citizenship (Miller 1995; Reeskens and Wright, 2013). As Reeskens and Wright (2013, p. 155) explain, this 'common shared identity functions as a category superordinate to ethnic, religious, or linguistic ties…as a kind of glue that holds society together'.

In Australia, the site of the current research, nearly one-third of the total population is born overseas. The top countries of birth are England, New Zealand, China, India and the Philippines, although many non-English speaking migrants live in Australia, although at significantly lower concentrations (Johnston, Poulsen and Forrest, 2007) as evidenced by the language diversity in the country. Approximately 28 percent of the population speak a language other than English at home. The most commonly spoken languages include Mandarin, Arabic, Cantonese, Vietnamese and Italian (ABS Census, 2016). Ethnic diversity and a civic oriented identity are considered strengths in Australia. In its 'Multicultural Statement', the Federal Government refers to Australia's national identity as multicultural, claiming that cultural diversity is key to the country's unity and prosperity (Australian Government, nd). This shared idea of 'difference' moves beyond ethnic ties and instead creates an imagined community where people from all backgrounds belong and prosper. The extent to which this manifests in daily life is debateable, nonetheless, such political

statements represents the normative expectation that Australia's national identity is inclusive and open.

Even within an ethnically diverse country that celebrates its diversity, multiple identity representations are present, with some individuals preferring to subscribe to their own ethnic identity (either relating to that country's most dominant group or a minority group), while others prioritise a civic identity irrespective of their own ethnic origins. Putnam (2007) believes the degree to which exclusive identity orientations take priority in a given context can influence how various ethnic groups within that environment interact. In theory, within a culturally heterogeneous neighbourhood where individuals prioritise their own ethnic identities over a more inclusive civic identity, social interaction may be attenuated to one's own group. In contrast, if civic identity takes precedence, ethnic divisions are less likely to exist and social interactions within those neighbourhoods may be more likely (Putnam, 2007).

Few studies empirically test the relationship between diversity, identity and social life. Those that do focus their enquiry at the nation or city level and do not examine more meso-level settings, such as neighbourhoods. Comparing cross-national data from 24 European Union countries, Reeskens and Wright (2013) investigated the association between a nation's 'self-definition' (ethnic or civic) and generalised trust, association membership, and voluntary involvement within those nations. They found a strong link between ethnic identity and lower levels of social capital, but found no evidence that 'aggregated 'civic-ness' or 'ethnic-ness' of countries' moderated this relationship (Reeskens and Wright 2013, p. 170). This null finding is unsurprising given the non-random distribution of ethnically diverse communities across nation states. We argue that the intersection of ethnic diversity, social identity and social

distance is more likely to manifest at a more meso-level of spatial granularity, such as the neighbourhood.

Present Study

In this paper we focus on the impact of ethnic diversity on measures that capture social withdrawal *behaviours*. These include the density of neighbour ties, the frequency of neighbourly exchange, and reported civic actions taken to address local issues.

We also provide a sharper focus on two theoretical mechanisms that connect ethnic diversity to social withdrawal: social distance and social identity. Drawing on recent work of Wickes and colleagues (2013) and Hipp and Wickes (2016), we employ two measures of social distance. The first captures the objective presence of social distance by assessing whether individuals who: a) have fewer intergroup ties, and b) live in neighbourhoods with fewer intergroup ties than what would be expected by chance, experience social withdrawal (Hipp and Wickes, 2016). We hypothesise that individuals living in neighbourhoods where intergroup ties are representative of the neighbourhood's ethnic composition will be less likely to socially withdrawal than those living in neighbourhoods where ties diverge from the norm. We argue that more intergroup ties are suggestive of neighbourhood cliques whereas fewer intergroup ties indicate tie segregation (H1). Both of these conditions may weaken the opportunity social engagement among residents from different ethno-racial backgrounds (Al Ramiah and Hewstone, 2013). The second measure of social distance captures the subjective perception of the neighbourhood's ethnic/racial composition (Wickes et al., 2013) at the individual level *and* as a shared neighbourhood perception on social withdrawal. Individuals who perceive greater minority presence than what exists in the neighbourhood may also report higher withdrawal compared to those who perceive less (H2). Additionally, we

hypothesise that individuals living in neighbourhoods where others *collectively overestimate* minority presence will report higher withdrawal (H3).

We also seek to address the role of social identity salience in explaining variation in social withdrawal. Putnam (2007) argues that social withdrawal is a consequence of perceived identity threat: specifically, social identity salience is intensified with the arrival of immigrant newcomers. From this perspective, in some ethnically diverse neighbourhoods individuals may orient to their ethnic identity, which in turn means they will shut themselves off from their community and 'pull in like a turtle' (Putnam 2007, p. 149). In others, individuals may see diversity as valued, triggering a civic identity that aligns with social engagement. We hypothesise that ethnic national identity salience will predict social withdrawal, whereas civic identity salience will predict social interaction (H4). Further, we hypothesise that the strength of the relationship between social distance and social withdrawal will be moderated by one's own identity salience. We argue that social withdrawal will be greater for those individuals who orient to an ethnic identity and live in neighbourhoods with greater social distance (H5).

Methods

The Australian Community Capacity Study

We use survey data from the Australian Community Capacity Study (ACCS): a longitudinal panel study of urban communities in Australia supported by the Australian Research Council (for more information see https://accs.project.uq.edu.au). The goal of the ACCS is to understand and analyse the key social processes associated with the spatial variation of crime and disorder across urban communities over time. The current study employs data collected

in 2010 representing the first wave of the Melbourne study. The Melbourne ACCS sample comprises 149 randomly selected neighbourhoods[3] with a population mean of 6514 persons.

The Research Site

Melbourne is the state capital of Victoria and the second largest city in Australia. At the time the ACCS survey was conducted, Melbourne had a population of over 3.5 million. It is a dominant settlement point for immigrants currently and historically. The most recent census data aligned with our survey data revealed that out of the 4,415,404 residents living in Metropolitan Melbourne, 1,511,583 were born overseas (34.2 per cent). The top five countries of birth include India (160,658 people representing 10.6 per cent of total overseas immigration), China (155,881 people representing 10.3 per cent), England (130,837 people representing 8.7 per cent), Vietnam (78,998 people representing 5.2 per cent) and New Zealand (78,022 people representing 5.2 per cent). In the previous Census in 2011, Italy represented the fourth most common country of birth. The majority of overseas immigrants have settled in five local government areas: Casey, Brimbank, Wyndham, Monash and Great Dandenong (see ABS, 2016). Immigrants from India tend to concentrate in the north, west and south-east of Melbourne's central business district. In contrast, immigrants born in China reside largely in the south-eastern suburbs (Wickes et al., 2020).

ACCS Survey Participants

The Melbourne sample comprises 4943 participants aged 18 years or over who were usually resident in private dwellings. A total of 149 neighbourhoods were randomly sampled from a population of 352 residential neighbourhoods. In Australia, the prefixes of landlines correspond to geographical neighbourhoods. Participants were selected in each

[3] In this study, neighbourhoods represent state suburbs. In Australia, state suburbs are similar to census tracts in the U.S. context, though in some cases, suburbs may be larger than census tracts as they are not determined by population. Throughout this paper we use the more familiar term "neighbourhood".

neighbourhood through random digit dialling, using those prefixes associated with the randomly selected neighbourhoods. There was an average of 33 participants per neighbourhood (with a range of 10 to 60 participants). The overall consent and completion rate for Melbourne was 40.9 percent. This rate was calculated using the American Association of Public Opinion Research guidelines and represent the number of interviews completed proportional to the number of eligible households contacted in the randomly selected neighbourhoods. Though the response rate is in line with what would be expected in similar surveys, we note that an increased response rate would have resulted in greater representation. The survey was conducted from 25 August to 15 December 2010. Trained interviewers used computer-assisted telephone interviewing to administer the survey which lasted approximately 24 minutes. See Mazerolle, et al. (2012) for further information on the ACCS survey.

Australia Bureau of Statistics Census Data

In our analyses we control for a range of neighbourhood socio-structural characteristics including recent immigrants, residential stability, median household income and population density. These data are extracted from the 2006 Australian Bureau of Statistics (ABS) Census which is collected every five years. We discuss these variables further below.

Dependent variables

Our three dependent variables capture Putnam's (2007) notion of hunkering and represent the behavioural dimension of social cohesion. These items have been used in reputable neighbourhood studies including the Project for Human Development in Chicago Neighbourhoods and previous waves of the ACCS. Our first dependent variable is an index of two items that capture the density of *neighbour ties* reported by the participants. The first item asked participants to report on how many relatives and friends (that do not live in the

household) live in their community. Response categories were: 0, 1-2, 3-4, 5-6, 7-8, 9-10 and more than 10. The second item asked if participants know none of the people in the community, a few people in the community, many of people in the community and most of the people in your community. The indices for all three dependent variables were created using principal components analysis and computing standardised factor scores.

Our next variable is a three-item scale of *neighbourly exchange* that captures the frequency of neighbouring in the local area. The items that comprise this scale follow – response categories for each item were 'often', 'sometimes', 'rarely', and 'never':

- How often do you and people in your community do favours for each other?
- How often do you and people in your community visit in each other's homes or on the street?
- How often do you and people in your community ask each other advice about personal things such as child rearing or job openings?

Our third outcome measure of *civic engagement* is measured as a factor combining three questions asking participants if during the last 12 months they had signed a petition, attended a public meeting or joined with people to resolve a local or community problem. Response categories were binary yes/no. High scores on all three dependent variables indicate high levels of social participation whereas low scores indicate social withdrawal. The Cronbach alphas for these three measures were .53, .62, and .75 for neighbour ties, civic engagement, and neighbourly exchange, respectively. Although moderate values, random measurement error for the outcome variable does not induce bias in coefficients, but simply increases uncertainty in estimates.

Independent variables

We hypothesise in this paper that greater social distance at both the neighbourhood and individual level is associated with greater social withdrawal and that the effect of social distance on social withdrawal will be stronger for those who strongly identify with an ethnic oriented identity. In the following section, we detail the construction of social distance and social identity variables used in our analyses.

Social Distance: Following Wickes and colleagues (2013) and Hipp and Wickes (2016), we construct a measure of social distance at both the individual and neighbourhood level of analysis. To construct these measures required a multi-stage process, and is similar to that described in Hipp and Wickes (2016).

To construct a measure of observed social distance at the neighbourhood level, we calculated the expected probability of interaction within and across groups based on the insights of Hipp and colleagues (Hipp, Tita, and Boggess, 2011; Hipp and Wickes, 2016). These interactions are likely to occur in neighbourhood areas such as parks, local shops, schools and community venues. In contrast to cities in the United States, ethno-racial segregation is significantly lower (Sydes, 2019). Australian cities are characterised by large proportions of residents living in "ethnically mixed residential milieus" that comprise Indigenous and migrant communities (Johnston, Poulsen and Forrest, 2007: 724). Given the low levels of ethnic segregation in Australian cities, we expect that all members of a given neighbourhood have equitable access to public settings. We first calculate the total number of expected interactions in a neighbourhood:

(1) $$totint = N(N-1)$$

where N is the total population of the neighbourhood.

The proportion of expected within-group interactions (T_W) is computed based on the probability of interaction *within* the group:

(2) $$P(T_W) = N_A(N_A\text{-}1) \,/\, totint$$

where N_A is the number of people in group *A* (proportion white or non-white is based on the Census variable reporting country of origin). The proportion of expected intergroup ties (T_I) within a neighbourhood is based on the probability of interaction between two groups:

(3) $$P(T_I) = 2(N_A(N_B)) \,/\, totint$$

where N_A is the number of people in group *A*, and N_B is the number of people in group *B*. Multiplying by two accounts for the possible bidirectional nature of social ties.

The second step assessed the actual number of within group and intergroup ties among participants. This entailed combining participants' responses to two survey questions: 1) "How many people would you say you know in your community?" (a) none; b) a few; c) many; d) most); and 2) "Of the people you know in your local community, how many are Anglo Saxon?" (a) none, b) a few, c) many; d) most). We followed the strategy of Hipp and Wickes (2016) to assign numeric values to these ordinal scales. This approach accounts for the inherent uncertainty of this measure by simulating 100 randomly generated values in which we first randomly assigned a number between 10 and 110 for the number of persons in the neighbourhood (based on a uniform distribution) and generated random threshold values from a uniform distribution for the first question to distinguish between few, many, and most. The thresholds, combined with the number of persons in the network, yields a value on the number of persons they know in the community. Similarly, we generated random threshold values from a uniform distribution for the second question to distinguish between 'few', 'many', and 'most'. Based on these threshold values, the respondent's response to the second

question, and their own ethnicity, we then split a respondent's ties into 'white' and 'non-white' ties.[4] By randomly assigning these values based on these ordinal scales, we are able to account for the uncertainty in the actual values. Notably, the results were quite robust over the various simulated values (see also Hipp and Wickes, 2016). Given that we are simply assuming arbitrarily that the range of number of ties is 10 to 110, that the number of ties falls along this range based on a uniform distribution, and that the threshold values of the survey questions fall on a uniform distribution, we assessed the sensitivity of these assumptions by simulating data based on different assumptions. We altered the range of ties to values of 5 to 30, or 40 to 80, and simulated data. We also simulated data based on a logistic function rather than a uniform distribution. In all cases, the estimated models yielded results that were extremely similar to those presented here, highlighting that our results are not dependent on these assumptions.

Based on these simulated values, we then computed the number of ties within three categories for each respondent for the 100 simulations: 1) white/white; 2) non-white/non-white, or; 3) white/non-white or non-white/white. We then summed these for each neighbourhood and computed the proportion of total interactions in the neighbourhood. This procedure therefore yields an estimate of the proportion of ties in a neighbourhood that are within-group (by summing the white/white and non-white/non-white ties) and the proportion of ties that are intergroup.

[4] The survey did not directly ask the race of the respondent. Instead, we classified as "white" respondents who reported their ancestry as being Australian, Northern European, or North America. We note that this is an imprecise measure as people can be non-white within these categories, but it is the only way we can distinguish those from Anglo-Saxon backgrounds from other backgrounds as the Australian Census does not collect information on 'race'. In our sample, 78% were classified as white. Thus, our neighbourhoods were 22% non-white, with a standard deviation of 14.3%, ranging from 0% to 65% non-white.

The final step produces our measure of *neighbourhood intergroup interaction* by regressing the proportion of intergroup ties in a neighbourhood on the expected proportion of intergroup interactions ($P(T_I)$ from equation 1) for all neighbourhoods. This regression is:

$$y_k = \beta_0 + \beta_1 P(T_I) + \varepsilon_k$$

where y_k is the proportion of intergroup ties in neighborhood k. The *residual* from this equation (ε_k) gives the actual number of intergroup ties relative to the expected number. We extract this value and use it in the subsequent analyses. Higher values on this variable indicate neighbourhoods with more intergroup ties than expected, and vice versa.[5] The *individual intergroup interaction* measure was created similarly, thus:

$$y_{ik} = \beta_0 + \beta_1 P(T_I) + \varepsilon_{ik}$$

where y_{ik} is the proportion of intergroup ties for individual i in neighborhood k, $P(T_I)$ is the expected proportion of intergroup interactions in this neighborhood, and the *residual* from this equation (ε_{ik}) gives the actual number of intergroup ties relative to the expected number for this person. Each measure has a different value for each of the 100 simulations.

We then constructed our two measures of perceived social distance. To capture *perceived minority presence* at the neighbourhood level and *minority status distortions* at the individual level, we again draw on Wickes and colleagues (2013) and Hipp and Wickes (2016). The neighbourhood level measure of perceived minority presence is based on a multiple indicators multiple causes model (Bollen 1989, p. 319-323). The multiple indicators are the responses of each of the I participants in the neighbourhood to the question regarding their perception of the percent non-Anglo Saxon in the neighbourhood:

[5] These models showed a relatively good fit to the data. We included as predictors the expected number of ties, the quadratic version of this measure, and the cubic version (to capture possible nonlinearities). They explained about 50% of the variation in the actual number of intergroup ties in Melbourne neighbourhoods.

(1) $$y_{ik} = \eta_k + \varepsilon_{ik}$$

where y_{ik} is the assessment of the percent non-Anglo Saxon in the neighbourhood reported by the *i*-th respondent of *I* respondents in the *k*-th neighbourhood, η_k is the latent variable of *perceived minority presence* in the neighbourhood, and ε_{ik} is a disturbance term. Each respondent is a key informant of the neighbourhood's minority composition (Bollen and Paxton, 1998; Hipp, 2010; Hipp and Wickes, 2016; Mehta and Neale, 2005; Wickes et al., 2013) and the multilevel nature is accounted for as the data are swung wide in which each row of the data is a separate neighbourhood (see Curran (2003) and Bauer (2003) for discussions of this general technique).

The *multiple causes* comprise objective cues of minority presence measured along three dimensions—ancestry, religion, and language. These are included in the model as:

(2) $$\eta_k = X_k B + \varepsilon_k$$

where η_k represents perceived minority presence, X represents a matrix of the ethnic composition proxy variables measured at the level of neighbourhood *k*, B is a vector of their parameters, and ε_k is a disturbance for neighbourhood *k*.

To construct the individual level measure of *minority status distortion*, which represents the respondent's under or overestimation of the proportion of minorities in the neighbourhood, we use the residual (ε_{ik}) from the level 1 equation.

<u>Social Identity:</u> We include two items measuring social identity. *Ethnic identity* is measured with a single question asking: "Within Australia, I see myself first and mainly as a member of my racial/ethnic group". *Civic identity* is measured with a single question asking: "I see

myself first and mainly as a member of the Australian community". Each question allows answers strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree.

Neighbourhood Control Variables

We also included several key neighbourhood-level measures from the ABS Census that are likely to influence our three dependent variables. As both social distance and national identity salience may be evoked in neighbourhoods with recent and large influxes of immigrants (Ziller, 2015), we include the percentage of *recent immigrants* (arrived in the last five years) living in the neighbourhood in all our models. *Residential stability* is linked to both the formation of social ties among residents and perceptions of social cohesion and trust (Ross, Reynolds and Geis, 2000). We measure residential stability as the proportion of people living at a different address five years prior. We also control for the *median household income* in the neighbourhood as disadvantage and ethnic diversity are extensively linked to lower social cohesion (Gijsberts et al., 2011; Lolle and Torpe, 2011; Twigg, Taylor and Mohan, 2010). Finally, as Melbourne neighbourhoods vary in terms of size, we controlled for the *population density* (total persons per square kilometre) of each neighbourhood.

Individual Control Variables

Similarly, we included a number of individual level characteristics that may influence our measures of social withdrawal. The first was the approximate annual household income (1 = less than $20,000, 2 = $20,000 to $39,999; 3 = $40,000 to $59,999; 4 = $60,000 to $79,999; 5 = $80,000 to $99,999; 6 = $100,000 to $119,999; 7 = $120,000 to $149,999; 8 = $150,000 or more), which we treated as a continuous variable in our analyses. We also controlled for education (7= post graduate qualifications; 6 = a university or college degree; 5 = a trade, technical certificate or diploma; 4 = completed senior high school; 3 = completed junior high school; 2 = primary school; 1 = no schooling), which was also treated as continuous with

higher values indicating higher education. As owning a home may reduce social withdrawal, we controlled for whether our participants owned or rented their home (1 = own, 0 = rent) and their length of residence at the current address (1 = less than 6 months; 2 = 6 months to less than 12 months; 3 = 12 months to less than 2 years; 4 = 2 years to less than 5 years; 5 = 5 years to less than 10 years; 6 = 10 years to less than 20 years; 7 = 20 years or more), the latter treated as a continuous variable in our models. We also controlled for whether the respondent speaks a language other than English at home (1 = English only, 0 = language other than English) and whether the respondent has dependent children (1 = dependent children, 0 = no dependent children). We included measures of marital status (single, widowed, or divorced, with married as the reference category), age and gender (1 = female). We constructed several ancestry measures: 1) Middle Eastern; 2) Asian; 3) South-Eastern European; 4) South African; 5) Indigenous Australian. Northern Europeans, our proxy for white participants, are the reference category. The summary statistics for the variables included in the analyses are presented in Table 1.

<<Table 1 here>>

Analytic Approach

We estimated the models as linear multilevel models, in which the outcome reported by each household is nested within the neighbourhood. Missing values for any of our measures are addressed by using multiple imputation based on the ice command in Stata using a switching regression technique, which is an iterative multivariable regression technique. This approach accounts for the clustering of households within neighbourhoods and provides correct standard errors. The standard errors are also corrected for the multiple imputations of the adjusted intergroup interaction measure by using the approach of Rubin (1976). We grand mean centered all individual- and household level measures in the models. We tested for

nonlinear effects for our key measures by constructing quadratic versions of the variables and including them in the models. The quadratic term for individual intergroup interaction was significant, and therefore included in all models. In the second set of models we included a number of interactions in order to assess whether the relationship between social distance and social withdrawal is moderated by social identity.

Results

We first examine the relationship between social distance and the outcome measures of social withdrawal. We find partial support for H1 and H3. We see in Table 2 that in neighbourhoods with more intergroup ties than what would be expected (neighbourhood intergroup interaction), individuals have lower levels of neighbour ties and civic engagement, on average, than participants living in other neighbourhoods. A one standard deviation increase in neighbourhood intergroup interaction is associated with -.033 and -.066 standard deviations lower neighbour ties and civic engagement, respectively. They also have modestly lower levels of neighbourly exchange (though this effect is not statistically significant at $p < .05$). Greater perceived minority presence at the neighbourhood level is significantly associated with lower levels of neighbour ties, neighbourly exchange and civic engagement as reported by our participants (see Table 2). These are relatively strong effects, as one standard deviation greater perceived minority presence at the neighbourhood level is associated with -.10 to -.11 standard deviations lower values on these three outcome variables.

At the individual level, there is a strong nonlinear relationship between individual- intergroup interaction and social withdrawal. When plotting these effects we detected an inverted-U relationship in which the highest levels of these three outcome variables occur when the individual intergroup interaction variable is at zero; thus, participants who have either more

or fewer inter-group relationships than what we would expect by chance report lower levels of neighbourly exchange, neighbour ties, or civic engagement.

However, we did not find support for H2, as an individual's own minority status distortion did not significantly predict lower neighbourly exchange and neighbour ties.

<<Table 2 here>>

Our findings indicate that those favouring an ethnic identity were more likely to withdraw when compared to those holding a civic identity (H4). As detailed in Table 2, for each additional value on the ethnic identity scale reported by participants, neighbourly exchange *decreases* by 0.0315 points (-0.038 standard deviation). In contrast, each additional point on the civic identity scale reported by participants significantly *increases* their neighbourly exchange by 0.0425 points (.034 standard deviation). Of note, the variation in identity salience between neighbourhoods is actually quite small. Thus one's identity, as would be expected, is likely shaped by an individual's own experiences and life course.

There are several neighbourhood level control variables that also influence social withdrawal. Residents living in residentially stable neighbourhoods or densely populated neighbourhoods report lower levels of civic engagement, though they do not differ in the density of their neighbourhood ties. Interestingly, in neighbourhoods with more recent immigrants, residents report higher levels of civic engagement, on average, than residents living in neighbourhoods with fewer recent immigrants. At the individual level, residents with longer length of residence report higher levels of ties, neighbourly exchange and civic engagement. Those who are single, and those without children, report lower levels of neighbourly exchange and neighbour ties. Those with higher levels of education report more neighbourly exchange and higher levels of civic engagement. Whereas widowers report more neighbour ties, they report less civic engagement; on the other hand, divorced participants report fewer neighbour ties.

Females report more neighbourly exchange, whereas older participants report more civic engagement but less neighbourly exchange. Finally, looking to our ethnicity variables, when compared to Northern Europeans, participants from South-East Europe, Africa or Indigenous participants do not differ significantly on any of the dependent variables. However, Asians report lower levels of neighbourly exchange and civic engagement and Middle Eastern participants report less neighbourly exchange.

These models explain a reasonable amount of the variance at levels 1 and 2 in these models. Our models explain 5.6%, 9.8%, and 3.6% of the variance at level 1 in the models for neighbourly exchange, neighbour ties, and civic engagement, respectively. Our models did an even better job at level 2 as they explained 63.6%, 50%, and 39.3% of the level 2 variance for these same three outcome variables.

Moderating effect of social distance for the civic/ethnic identity and social withdrawal relationship

H5 suggested that the association between one's social identity orientation and social withdrawal may be heightened for individuals living in neighbourhoods with greater social distance. We therefore estimated additional models that tested interactions between ethnic and civic identity, our measures of social distance and their influence on neighbour ties, neighbourly exchange and civic engagement. These results are displayed in Table 3.[6] We visually display the significant results by plotting the interactions. We find significant support for the moderating effect of identity on social withdrawal in socially distanced neighbourhoods.

<<Table 3 here>>

[6] We also estimated models with each of the interaction terms entered separately, and found similar results to those including all interactions simultaneously. We therefore present the model results including all interactions simultaneously.

In Figure 1 we plot the results of the interaction between neighbourhood intergroup interaction and ethnic identity for levels of neighbourly exchange. We plot these at low, medium, and high values of each variable (one standard deviation below the mean, the mean, and one standard deviation above the mean). We observe that in neighbourhoods with high proportions of intergroup interaction (the right side of the figure) there is no difference in an individual's own report of neighbourly exchange for either very high or very low ethnic identifiers. However, in neighbourhoods with low intergroup interaction, an individual's reported ethnic identity strongly impacts their reports of neighbourly exchange. Individuals with a very strong ethnic identification had significantly lower reports of neighbourly exchange in neighbourhoods where there were fewer intergroup interactions that we would expect given the population composition. When we plotted this same interaction for the outcome of neighbour ties, the figure looked very similar to Figure 1, and therefore the conclusions are the same for this outcome variable. Thus, social withdrawal was more evident among those participants who endorsed exclusivist identity orientations and were living in neighbourhoods where intergroup interaction was low.

<<Figure 1 here>>

For the model with civic engagement as an outcome, neighbourhood intergroup interaction moderates the effect of civic identity (see Figure 2). Individuals who strongly orient towards a strong civic identity have higher civic engagement than those who report low levels of civic identity, even when living in a neighbourhood with low levels of intergroup interactions.

<<Figure 2 here>>

Whereas in Figures 1 and 2 we focussed on the neighbourhood context of intergroup interaction in Figure 3, we focus on an *individual's* own intergroup interactions. Here we see that for individuals who have more intergroup ties than what would be expected by chance,

there is no relationship between civic identity and neighbourly exchange. Yet individuals with low levels of intergroup interaction and low civic identity report the lowest levels of neighbourly exchange. In contrast, those with low intergroup interaction but *high* reported civic identity report very high levels of active neighbouring. The plot for the same interaction for the outcome measure of neighbour ties was very similar to Figure 3, yielding the same conclusions for this outcome variable.

<<Figure 3>>

We also find that the effects of ethnic identity on social withdrawal are influenced by participants' minority status distortion. As shown in Figure 4, for participants who report low levels of minority status distortion, their reported level of ethnic identity has little effect on their number of neighbour ties. Yet, those who report high ethnic identity *and* high minority status distortion report the lowest neighbour ties. Finally, we note that the variance explained at level 1 and level 2 is modestly improved in these models including interactions compared to the models in Table 2.

<<Figure 4 here>>

Discussion

Increased diversity is a reality for urban neighbourhoods across the globe. Scholarship suggests that diversity is linked to many positive outcomes for host communities and indeed origin countries, yet the extent to which diversity impacts social life varies across people and places. This suggests that diversity, in and of itself, is not the driving force of social withdrawal. Responding to the call of van der Meer and Tolsma (2014; Tolsma and van der Meer, 2018) and building on the work of Dineson and colleagues (2019), we explored the efficacy of social distance and social identity salience frameworks as mechanisms that might explain the diversity-social withdrawal thesis. Our operationalisation of social distance

differed from previous studies that only capture the ethnic composition of the locality and thus may be biased towards finding a negative relationship between diversity and social withdrawal (van der meer and Tolsma, 2014). We explicitly captured both perceptions of ethnic difference and the number of inter-ethnic ties within the neighbourhoods, given the possible inter-ethnic ties that could occur in the neighbourhood by chance. Further, in contrast to studies that focus on social cohesion as a perception, we examined specific behaviours that represented social participation or withdrawal, thus providing a stringent test of Putnam's constrict thesis.

Three key findings emerge from our study that advance scholarship. First, focussing on actual behaviours including the density of neighbour ties, the frequency of neighbourly exchange, and neighbourhood participants' reported civic actions, we find that individuals are more likely to socially withdrawal in neighbourhoods where participants collectively perceive greater minority presence than those individuals living in neighbourhoods where perceptions of minority presence are closer to reality. Thus, when minority distortions are *shared*, individuals report fewer ties, engage in less neighbouring, and report fewer civic actions. These findings align with studies that demonstrate the strong link between misperceptions of the neighbourhood composition and reports of neighbourhood problems (Chiricos, Hogan and Gertz, 1997; Wickes et al., 2013). In areas where minorities are linked to neighbourhood disorder, shared biases about particular minority groups may emerge which can negatively impact upon social life for all residents, regardless of their racial or ethnic background (Quillian and Pager, 2001; Sampson, 2009; Sampson and Raudenbush, 2004). In Australia, the maximum percentage of any ethnic group in a given neighbourhood is significantly lower than in the United States (Johnston, Poulsen and Forrest, 2007). Instead, Australian cities are characterised by significant ethnic diversity with many different ethnic groups living in the same neighbourhood. Yet particular ethnic groups, though small in absolute percentages and

neighbourhood concentration, are consistently associated with community problems in media and political rhetoric (Farquharson and Nolan, 2018). For example, in a study Melbourne neighbourhoods conducted in 2017, Wickes et al. (2020) found nearly one in four participants reported feelings of low warmth towards Muslims and people of African heritage and approximately one in six participants reported anger towards Muslims and people of African heritage. Benier, Wickes and Moran (2021) also found that residents who reported high anger/low warmth towards African migrants were also more likely to report greater community problems. Our findings lend support to these studies. Negative associations and minority misperceptions are consequential for social withdrawal for native and overseas born participants alike.

Our second key finding is that ethnic identity encourages social withdrawal. Controlling for a comprehensive range of individual and neighbourhood level correlates, including shared minority distortions, individuals who endorse an identity that privileges belonging according to birth or ancestry report greater hunkering when compared to those who support an identity based on shared norms and vales. This is an important finding as it shows that it is not the presence of diversity that matters for hunkering, but rather the way in which individuals define belonging. When national group membership is linked to civic orientations, the effect of ethnic diversity on social withdrawal is significantly lower. Put another way, shared the commitment to a common citizenship irrespective of ethnicity can enhance neighbourhood engagement.

Linked to this is our third finding. Neighbourhood social distance can trigger identity salience, which in turn encourages individuals to hunker. For high ethnic and civic identifiers, the level of neighbourhood intergroup interaction has no effect on an individual's report of hunkering. Yet for those who are low identifiers, the neighbourhood context matters. For

example, low ethnic identifiers engage in higher neighbourly exchange than high ethnic identifiers, but only when there are more within-group ties than what would be expected by chance. In other words, the presence of within group ties at the neighbourhood level encourages neighbourly exchange, but only for those who do not strongly endorse an ethnic identity. It is possible that these intragroup neighbourhood ties provide some comfort for those who are uncertain, or at least not fully committed to an ethnic identity, to branch out and connect with others in their local area. Anderson's (2004) concept of the cosmopolitan canopy is instructive in explaining this relationship. Anderson (2004: 25) argues that particular places have observable codes of civility and these in turn all allow people from different backgrounds to 'slow down and indulge themselves' as they attempt to make sense of diversity. Witnessing positive interethnic connections may diminish feelings of uncertainty for those individuals who are not fully committed to belonging on the basis of race or ethnic origins. While survey data do not allow us to test this hypothesis directly, our results indicate that this is an important area for further research.

These findings point to important advances in understanding the diversity-hunkering relationship, yet we note three limitations of this research. First, though our results indicate the importance of social identity salience as a theoretical process to explain hunkering in diverse neighbourhoods, we recognise that our measures of ethnic and civic national identification are simplistic. Future research will need to incorporate more comprehensive measures of national identity to assess the extent to which our findings can be replicated. The second limitation relates to our measures of contact. The number or density of social ties does not equate to the quality of these ties. Research demonstrates the importance of the quality of inter-ethnic contact (Martinovic, van Tubergen and Maas, 2015; Ioannou et al., 2017), yet our data do not allow us to distinguish quality from quantity. Finally, the extent to which *within* neighbourhood residential segregation might impact these relationships, though beyond the

scope of the current project, remains largely unaddressed (Laurence et al., 2018). Again, while we contend our results provide a fruitful path for future research, there is much more to be done in this space.

Melbourne is a longstanding gateway city for new immigrants arriving to Australia and is renowned for its progressive approach to diversity and inclusion (ABS, 2014). It is also a city that attracts a significant number of migrants arriving through the skilled migration stream, who tend to live in middle income neighbourhoods with proficient English language skills. Unlike cities where racial and ethnic segregation are comorbid with significant economic disadvantage, as is the case in many cities in the United States (Johnston, Poulsen and Forrest, 2007), Melbourne is a 'cosmopolitan canopy' writ large. Yet, our analyses reveal that even in a city like Melbourne, where cross-cutting cleavages are less prominent than in other cities, it is the intersection of social distance and identity that hinders or promotes social engagement.

Conclusion

In summary, national identity is an integral sociological concept that theoretically and empirically illustrates how people make sense of their world. Political and social developments such as election victories, immigration policies, revolutions and civil wars are all predicated on a sense of belonging to and identifying with a nation state (Croucher, 2018). In contemporary Australian society, as is the case in most advanced western nations, national identity is inextricably linked to immigration policies and practices. Yet even in the most divisionary debates, such as Brexit or the former United States President Trump's stance on immigration, orientations to exclusivist understandings of who belongs are not randomly scattered across the national landscape, but are instead clustered in particular cities and towns (Becker, Fetzer and Novy 2017; Smith & Hanley, 2018). As our findings suggest, particular

places can, and do, trigger these understandings in ways that are likely to be consequential for neighbourhood life.

These findings are important for migrant settlement. In most advanced nations, the onus on successful settlement almost exclusively falls on the migrant. Migrants are expected to adapt to their host culture and orient their behaviours and practices to align with what would be accepted by the mainstream. This even holds in advanced liberal democracies such as Australia that purport a multicultural identity (Joppke & Morawska, 2014). Where migrants settle has consequences not only for their experience of community life, but also for those of the host community. Our findings align with Tolsma and van der Meer's claim that diversity, in and of itself, is not the 'root cause behind the negative relationship between neighbourhood diversity and neighbourhood cohesion' (2018, p. 92). Instead, collective (mis)perceptions of diversity combined with exclusive understandings of who can ultimately 'belong' are the driving forces behind social withdrawal.

Tables and Figures

Table 1. Summary statistics for variables used in analyses

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	Mean	SD				Percent
Dependent variables				How often do favors?	Never	6.3
Neighbourly exchange	-0.007	0.902			Rarely	16.5
Neighbour ties	-0.001	0.752			Sometimes	35.3
Civic engagement	-0.001	0.833			Often	41.9
Individual-level measures				How often visit?	Never	9.5
Ethnic identity	2.532	1.075			Rarely	19.2
Civic identity	4.033	0.724			Sometimes	36.4
Minority status distortion	-0.030	19.645			Often	34.9
Individual intergroup interaction	0.000	0.183		How often ask advice?	Never	28.3
Speak only English at home	0.849	0.358			Rarely	27.6
Education	3.95	1.37			Sometimes	25.9
Household income	4.34	2.15			Often	18.2
Owner	0.833	0.373		How many relatives and friends?	None	21.9
Length of residence	5.39	1.36			One or two	10.0
Single	0.153	0.360			Three or four	9.6
Widowed	0.077	0.266			Five or six	11.1
Divorced	0.106	0.308			Seven or either	4.8
Age	51.2	16.0			Nine or ten	5.2
Female	0.623	0.485			More than 10	37.5
Have children	0.685	1.070		How many acquaintances?	None	3.2
Ancestry: middle eastern	0.016	0.124			A few of them	58.7
Ancestry: Asian	0.074	0.262			Many of them	28.7
Ancestry: South-eastern European	0.105	0.307			Most of the people	9.4
Ancestry: Africa	0.006	0.075		How much contact w/ neighbor in last week?	Have not had contact	18.2
Ancestry: Indigenous	0.009	0.093			Once	15.7
Neighborhood-level measures					Twice	18.2
Neighbourhood intergroup interaction	0.000	0.063			Three times or more	47.9
Perceived minority presence	29.4	12.7				
Residential stability	0.237	0.694			Signed a petition	32.7
Median income (1,000's)	1153	349			Attended public meeting	23.1
Population density (1,000's)	21.8	16.7			Joined with people	25.6
Proportion new immigrants (last 5 years)	0.040	0.041				
N = 4,943 individuals						

Table 2. Models predicting neighbourly exchange, neighbour ties, and civic engagement

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	Neighbourly exchange		Neighbour ties		Civic engagement	
Minority status distortion	-0.0013	†	-0.0010	†	-0.0002	
	(0.0008)		(0.0005)		(0.0006)	
Individual intergroup interaction	0.0926		0.0958		0.0487	
	(0.0730)		(0.0596)		(0.0677)	
Individual intergroup interaction squared	-1.7251	**	-2.0085	**	-0.8882	**
	(0.2689)		(0.2205)		(0.2494)	
Ethnic identity	-0.0315	*	-0.0138		-0.0449	**
	(0.0124)		(0.0100)		(0.0113)	
Civic identity	0.0425	*	0.0145		0.0196	
	(0.0177)		(0.0143)		(0.0163)	
Speak only English at home	0.0109		-0.0385		-0.0318	
	(0.0468)		(0.0378)		(0.0431)	
Education	0.0269	*	-0.0121		0.0778	**
	(0.0105)		(0.0084)		(0.0098)	
Household income	-0.0010		0.0025		0.0054	
	(0.0098)		(0.0073)		(0.0099)	
Owner	0.0514		0.0225		0.0651	†
	(0.0382)		(0.0311)		(0.0357)	
Length of residence	0.0698	**	0.1215	**	0.0278	**
	(0.0111)		(0.0090)		(0.0103)	
Single	-0.0929	*	-0.0823	*	-0.0476	
	(0.0444)		(0.0354)		(0.0415)	
Widowed	0.0126		0.1016	*	-0.1241	*
	(0.0535)		(0.0440)		(0.0507)	
Divorced	-0.0497		-0.1004	**	-0.0414	
	(0.0451)		(0.0362)		(0.0426)	
Age	-0.0027	*	0.0012		0.0038	**
	(0.0013)		(0.0010)		(0.0012)	
Female	0.1058	**	0.0388	†	0.0464	†
	(0.0267)		(0.0216)		(0.0247)	
Have children	0.0990	**	0.1075	**	0.0182	
	(0.0139)		(0.0112)		(0.0128)	
Ancestry: middle eastern	-0.2724	*	-0.0890		-0.1408	
	(0.1208)		(0.0992)		(0.1132)	
Ancestry: Asian	-0.2390	**	-0.0562		-0.2550	**
	(0.0635)		(0.0517)		(0.0595)	

Ancestry: South-eastern European	-0.0038			0.0300			-0.0571	
	(0.0461)			(0.0373)			(0.0426)	
Ancestry: Africa	0.0734			0.2428	†		0.1873	
	(0.1687)			(0.1375)			(0.1570)	
Ancestry: Indigenous	0.0447			0.1332			0.0499	
	(0.1337)			(0.1092)			(0.1242)	
Neighborhood-level measures								
Neighbourhood intergroup interaction	-0.3329			-0.4020	*		-0.8808	**
	(0.2199)			(0.1850)			(0.2260)	
Perceived minority presence	-0.0079	**		-0.0062	**		-0.0065	**
	(0.0015)			(0.0012)			(0.0015)	
Residential stability	0.0432			0.0039			-0.0648	*
	(0.0277)			(0.0230)			(0.0279)	
Median income (1,000's)	0.0000			-0.0001	†		0.0000	
	(0.0000)			(0.0000)			(0.0000)	
Population density (1,000's)	-0.0001			-0.0007			-0.0048	**
	(0.0010)			(0.0008)			(0.0010)	
Percent new immigrants (last 5 years)	0.2921			-0.0539			1.2538	*
	(0.5679)			(0.4756)			(0.5725)	
Intercept	0.0561	**		0.0712	**		0.0298	†
	(0.0159)			(0.0132)			(0.0159)	
Level 1 variance	0.725			0.474			0.600	
Level 2 variance	0.012			0.018			0.046	
Proportion variance explained level 1	0.056			0.098			0.036	
Proportion variance explained level 2	0.636			0.500			0.393	
N = 4,943 individuals								
*Note: ** p < .01; * p < .05; † p < .1. Standard errors in parentheses. Multi-level models*								

N = 4943 individuals
Note: ** p <.01; * p <.05; † <.1. T-values in parentheses.

Table 3. Models predicting neighbourly exchange, neighbour ties, and civic engagement, including interactions of ethnic or civic identity and measures of minority status distortion or intergroup interaction.

Table 3. Models predicting neighbourly exchange, neighbour ties, and civic engagement, including interactions of ethnic or civic identity and measures of minority status distortion or adjusted intergroup interaction

	(1)		(2)		(3)		(4)		(5)		(6)	
	Neighbourly exchange		Neighbourly exchange		Neighbour ties		Neighbour ties		Civic engagement		Civic engagement	
Ethnic identity	-0.0158		-0.1366	*	-0.0166		-0.0918	†	-0.0441	**	-0.2655	**
	(0.0149)		(0.0684)		(0.0120)		(0.0553)		(0.0136)		(0.0630)	
Civic identity	0.0487	*	-0.0130		0.0250		-0.0266		0.0233		-0.0969	**
	(0.0211)		(0.0397)		(0.0171)		(0.0321)		(0.0196)		(0.0366)	
Minority status distortion	-0.0031		-0.0013	†	0.0009		-0.0010	†	0.0005		-0.0002	
	(0.0042)		(0.0008)		(0.0034)		(0.0005)		(0.0038)		(0.0006)	
Individual intergroup interaction	1.1894	**	0.0944		0.7675	*	0.0980		0.0286		0.0495	
	(0.4482)		(0.0730)		(0.3593)		(0.0597)		(0.4101)		(0.0676)	
Individual intergroup interaction squared	0.1753		-1.7158	**	-0.9973		-2.0015	**	-0.4916		-0.8693	**
	(1.5558)		(0.2689)		(1.2566)		(0.2205)		(1.4302)		(0.2491)	
Interactions												
Minority status distortion X Ethnic identity	-0.0008				-0.0016	**			-0.0007			
	(0.0006)				(0.0005)				(0.0006)			
Minority status distortion X Civic identity	0.0010				0.0006				0.0003			
	(0.0009)				(0.0007)				(0.0008)			
Neighbourhood intergroup interaction X Ethnic identity	0.4654	*			0.4882	**			0.2891			
	(0.1915)				(0.1555)				(0.1780)			
Neighbourhood intergroup interaction X Civic identity	0.2060				0.0009				-0.6562	*		
	(0.2932)				(0.2389)				(0.2723)			
Individual intergroup interaction X Ethnic identity	0.0227				-0.0500				-0.0351			
	(0.0685)				(0.0560)				(0.0634)			
Individual intergroup interaction squared X Ethnic identity	-0.4823	†			0.0569				-0.0518			
	(0.2503)				(0.2035)				(0.2261)			
Individual intergroup interaction X Civic identity	-0.2958	**			-0.1374	†			0.0286			
	(0.0994)				(0.0791)				(0.0905)			
Individual intergroup interaction squared X Civic identity	-0.1441				-0.3034				-0.0749			
	(0.3419)				(0.2778)				(0.3172)			
Ethnic identity X Civic identity			0.0255				0.0189				0.0534	**
			(0.0163)				(0.0132)				(0.0150)	
Neighborhood-level measures												
Neighbourhood intergroup interaction	-2.3306	†	-0.3238		-1.6443		-0.3949	*	1.0186		-0.8597	**
	(1.3123)		(0.2198)		(1.0691)		(0.1851)		(1.2216)		(0.2256)	
Perceived minority presence	-0.0080	**	-0.0079	**	-0.0063	**	-0.0063	**	-0.0066	**	-0.0067	**
	(0.0015)		(0.0015)		(0.0012)		(0.0012)		(0.0015)		(0.0015)	
Level 1 variance	0.721		0.724		0.471		0.473		0.598		0.598	
Level 2 variance	0.012		0.012		0.017		0.018		0.046		0.046	
Proportion variance explained level 1	0.061		0.056		0.103		0.098		0.038		0.038	
Proportion variance explained level 2	0.633		0.638		0.508		0.499		0.397		0.400	

*Note: ** p < .01; * p < .05; † p < .1. T-values in parentheses. Multi-level models*

N = 4943 individuals
Note: ** p <.01; * p <.05; † o <.1. T-values in parentheses. Multi-level models.

Figure 1. Neighbourly exchange predicted by interaction of neighbourhood intergroup interaction and ethnic identity

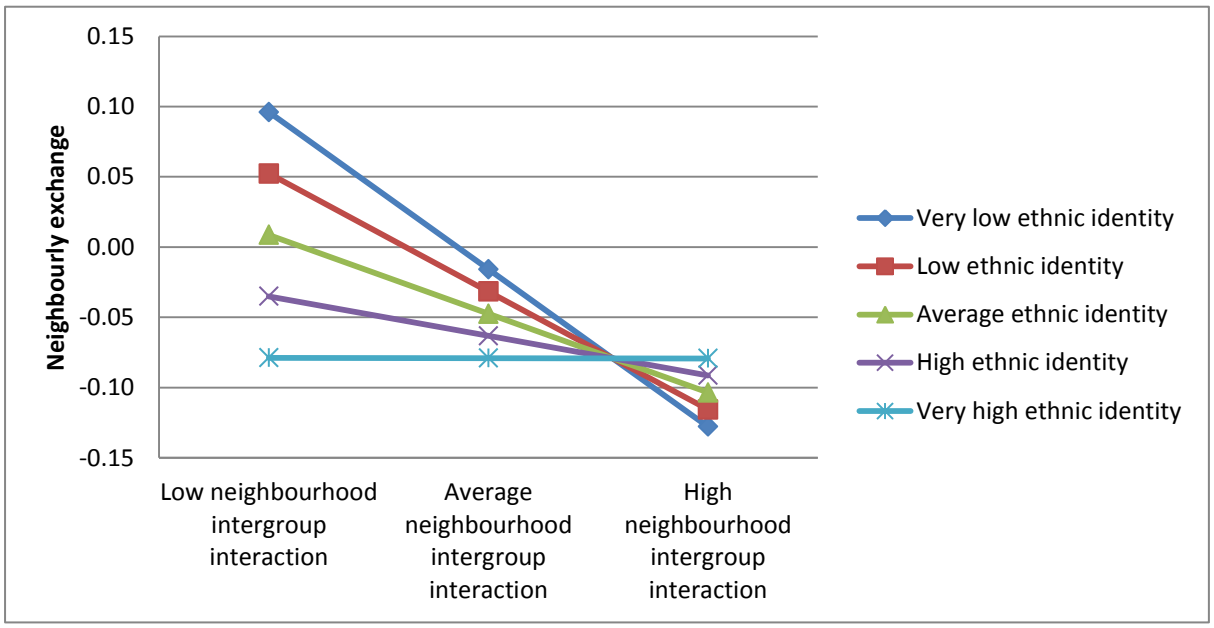


Figure 2. Civic engagement predicted by interaction of neighbourhood intergroup interaction and civic identity

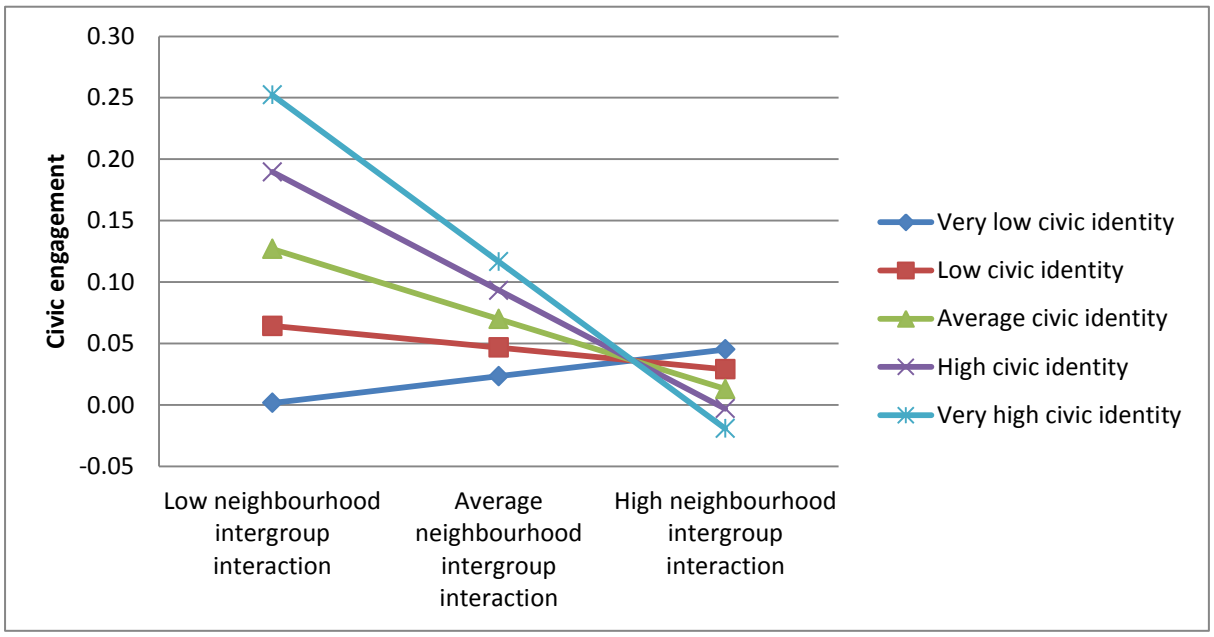


Figure 3. Neighbourly exchange predicted by interaction of individual intergroup interaction and civic identity

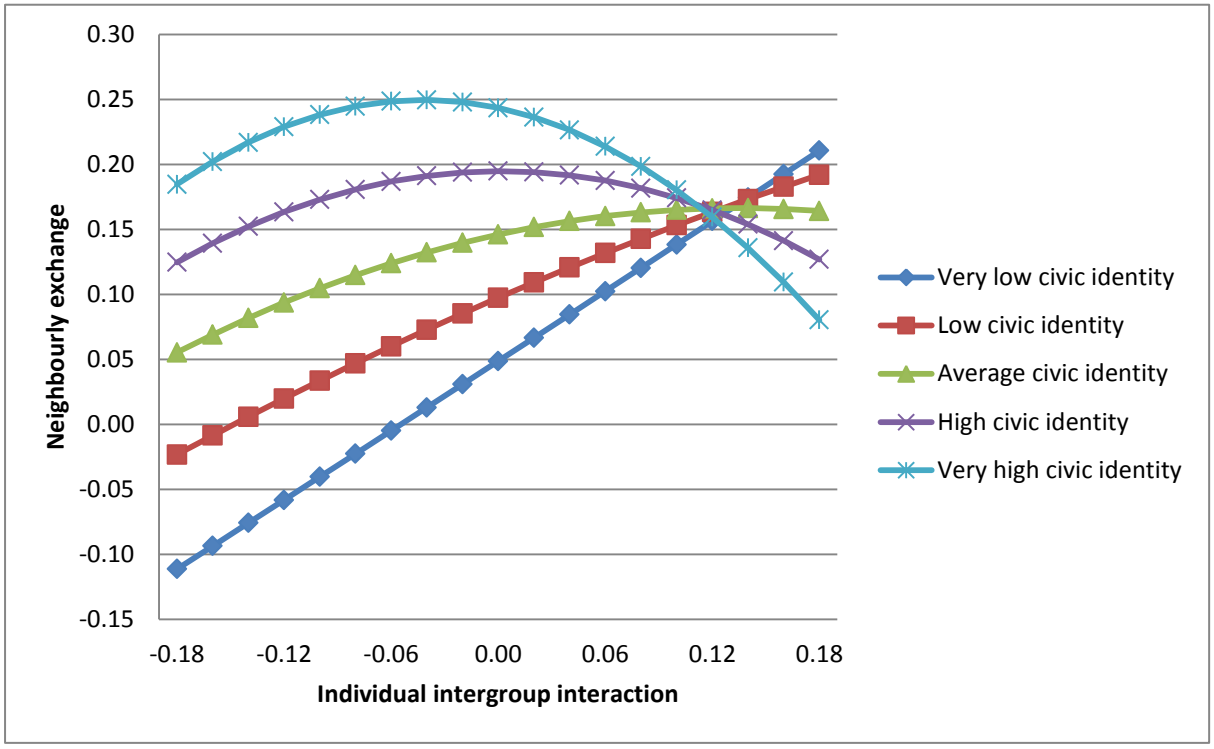
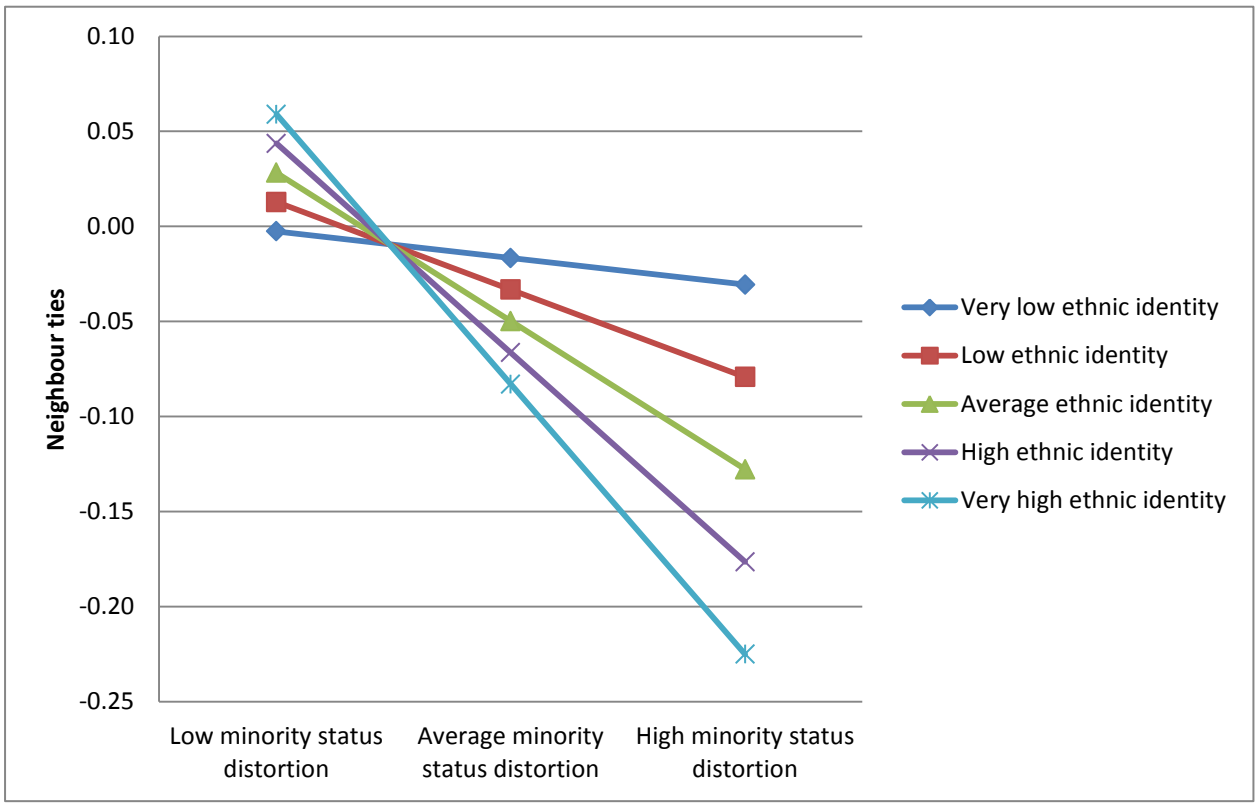


Figure 4. Neighbour ties predicted by interaction of minority status distortion and ethnic identity



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