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Spaces of encounter and attitudes towards difference: a comparative study of two European cities

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Abstract

Scholars have been increasingly interested in how everyday interactions in various places with people from different ethnic/religious background impact inter-group relations. Drawing on representative surveys in Leeds and Warsaw (2012), we examine whether encounters with ethnic and religious minorities in different type of space are associated with more tolerance towards them. We find that in Leeds, more favourable affective attitudes are associated with contact in institutional spaces (workplace and study places) and socialisation spaces (social clubs, voluntary groups, religious meeting places); however, in case of behavioural intentions – operationalised as willingness to be friendly to minority neighbours – only encounters in socialisation spaces play a significant role in prejudice reduction. In Warsaw, people who have contacts with ethnic and religious minorities in public (streets, park, public services and transport) and consumption spaces (cafés, pubs, restaurants) express more positive affective attitudes towards them, but only encounters in consumption space translate into willingness to be friendly to minority neighbours.

Key words: encounters, attitudes, ethnic diversity, Leeds, Warsaw

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1. Introduction

In recent years social scientists have become more engaged with the question how we develop the capacity to live with difference and reduce prejudice. The geography of encounter literature has critically acknowledged the varied forms which such contact takes, ranging from fleeting moments of connection between strangers at bus-stops, in cafés or at the school gate, to the more habitual co-existence of neighbours, and work colleagues (Amin, 2002; Hemming, 2011; Matejskova and Leitner, 2011; Valentine, 2008). Simultaneously, a rich social sciences literature emerged and investigated how ethnic diversity impacts social cohesion (Lancee and Dronkers, 2011; Laurence, 2014; Tolsma et al., 2009) and how inter-ethnic contact affects social relations between people living in more/less diverse communities (Vervoort et al., 2011; Stolle et al., 2013). More recent studies tested the effect of contextual diversity of other spaces, such as associations (Van der Meer, 2015) or schools (Janmaat, 2015), on outgroup attitudes. Yet, to our knowledge, the role of contact in different types of space has not been systematically investigated in one study.

Drawing on literature from human geography, sociology, psychology and urban studies, we aim to “bring contact theory and research closer to the complexities of ‘lived diversity’” (Wessel, 2009: 15). Specifically, this paper broadens the debate on urban encounters by focusing on a wider array of sites that might improve inter-ethnic relations than previous studies. We do so by analysing data from a representative survey on attitudes conducted in Leeds and Warsaw in 2012. Through developing statistical models we examine whether encounters in selected spaces are significant predictors of people’s attitudes towards people from other ethnic and religious backgrounds.

Our contribution is threefold. First, previous research on inter-group encounters has predominantly focused on one type of contact, usually the frequency of contact with neighbours. Some authors concluded that future studies should investigate different types of spaces and the availability of meeting places within the neighbourhoods (Vervoort et al., 2011), or activities that span outside the residential area, since experiences in other spaces also exert impact on social life outcomes (Van Kempen and Wissink, 2014). Recent research in ethnic studies examined the

importance of inter-ethnic contact in various places, such as social organisations (Achbari, 2015), workplace (Kokkonen et al., 2014) or leisure spaces (Schaeffer, 2013). In our study we analyse the role of contact in these different types of space simultaneously. Space is not merely a ‘physical container’ for social interactions, but it is social and relational, i.e. constructed in social relations (Lefebvre, 1991[1974]). As such, we argue that encounters in different spaces have different potentials to become ‘meaningful’, i.e. to “actually change values and translate beyond the specifics of the individual moment into a more general positive respect for – rather than merely tolerance of – others” (Valentine, 2008: 325).

Secondly, we distinguish between the emotional and behavioural components of outgroup attitudes. The emotional component is closer to the traditional understanding of prejudice as antipathy, e.g. used by Allport (1997[1954]) in his research on contact. While the affective dimension of attitudes indicates the level of ‘liking’ of a group or a person, the behavioural component indicates behavioural intentions and it does not have to be consistent with the emotional component (Blokland and Van Eijk, 2010). We compare emotional attitudes towards minority groups with declarations whether people would be friendly towards minority who share neighbourhood space with them.

Thirdly, recognising that debates about inter-ethnic encounters have primarily drawn on research conducted in the United States and Western Europe neglecting the dissimilar nature of patterns of diversity in other parts of Europe, we draw on a comparative study conducted in Leeds, UK and Warsaw, Poland – “Living with Difference in Europe: Making communities out of strangers in an era of super mobility and superdiversity” (2010-2014; see Piekut et al. 2012; Piekut and Valentine 2016; Valentine et al. 2015). These two cities are distinctively different. Leeds was selected as its proportion of minority ethnic residents is close to the national average (app. 17.5%, 2011 Census). Meanwhile, Warsaw has a history of ethnic diversity interrupted by the war and the communism era (i.e. in the Interwar period every third resident was of non-Polish background or non-Catholic religion; Jasińska-Kania and Łodziński, 2009). Warsaw is nowadays considered to be the most

ethnically diverse and cosmopolitan city in Poland, although the size of the ethnic minority population is very low, app. 1%. By comparing these cities we investigate how different urban and socio cultural contexts may refract opportunities of inter-ethnic contacts in different types of space and in consequence differently shape attitudes towards outgroup.

2. Theoretical Framework

2.1. Inter-ethnic Contact and Outgroup Attitudes

Attitudes, as inter/intra-group preferences, could be regarded as one of the dimensions of social cohesion understood as a degree of interconnectedness between individuals (Van der Meer and Tolsma, 2014). However, outgroup attitudes and social interactions are mutually dependent, as explained in the 'contact hypothesis' (Allport, 1997[1954]). According to this influential psychological theory, inter-group relations can be improved and prejudice reduced, if intergroup contact takes place in specific conditions: amongst others, people have common goals and the contact is supported institutionally. Yet, even in case of no institutional support, more casual encounters in everyday spaces can improve intergroup attitudes (Pettigrew and Tropp, 2006). Several empirical studies have demonstrated that the contextual effects of ethnic exposure are important for understanding the dynamics of social relations with the residential area. As the size of minority groups increases, majority members have more opportunities to meet minority group members (Vervoort et al., 2011; Huijts et al., 2014); although the quality of such contacts may be lower in diverse neighbourhoods than in homogenous ones (Lancee and Dronkers, 2011). Hence, the discussion has been mostly revolving around reconciling the 'contact hypothesis' and the 'conflict/competition theory' and investigating under what conditions ethnic heterogeneity can be 'harmful' (Laurence, 2014; Schlueter and Scheepers, 2010).

The rich literature on the effects of ethnic diversity and the role of contact usually reports the frequency of contact with neighbours (Huijts et al., 2014; Lancee and Dronkers, 2011; Stolle et al. 2008) or existence of significant relations with outgroup members, such as family ties or friendships

(Górny and Toruńczyk-Ruiz, 2014; Koopmans and Veit, 2014). However, within or outside neighbourhood interactions take place in different spaces (Huijts et al., 2014; Laurence, 2014) and people are involved in activities cross-cutting residential zones (Van Kempen and Wissink, 2014). Indeed some studies recognise the 'spatial' limitation of previous work. Dirksmeier (2014) noticed that the relationship between inter-group contact and attitudes may be different depending on the specific social space in the city where the interaction occurs (family, work, neighbourhood and circle of friends). Koopmans and Veit (2014) acknowledged the variety in urban encounters by distinguishing between close and distant encounters (friends, acquaintances and encounters with strangers) and positive and negative experiences. Building on this work, we argue that because the nature of encounter is socially produced differently in different types of space, depending whether the encounter setting is more public or private, inter-ethnic contact in different spaces will have a different effect on attitudes towards minorities. We explain our approach below.

2.2. Hypothesising Urban Encounters

In thinking about encounters we recognise that the simple dichotomy of public-private space is problematic and does not cover the complexity of social behaviour (Staeheli and Mitchell, 2004). On the basis of the human geography literature on encounters and empirical studies investigating the effects of diversity on social relations, we developed a typology of spaces that differ in the quality of social interactions that they facilitate. These are: *public space* (streets, parks, public transport, public services), *institutional space* (workplace and school), *socialisation space* (social organisations, sport and hobby clubs, activities around children's schools, places of religious meetings), *consumption space* (cafés, bars, restaurants, and clubs), and *private space* (immediate and extended family).

Public space is a space open to everybody; as such it offers a higher probability of meeting those different from ourselves than other types of space. Such encounters happen within neighbourly streets, parks, local services (e.g. shops) or public transport, but they also transcend the neighbourhood boundaries. The openness of public space makes it an ideal realm for inter-group encounters, since people from diverse backgrounds can mix and interact with each other. However,

this ideal does not necessarily hold true since urban space is socially constructed and reflects complex social (and power) relations between various groups. As a consequence, less-empowered groups often have difficulty accessing and using everyday public spaces (Mitchell, 1995). Recent studies have questioned the role of urban encounters in public space in reducing prejudice and it has been recognised that quotidian urban spaces provide 'illusory contact' with diversity (Wessel, 2009). Proximity does not necessarily bring 'meaningful contact', instead people who exchange civilities in public might still hold prejudicial views towards minority ethnic groups (Valentine, 2008). Similarly, quantitative studies have demonstrated that an increase in ethnic diversity in urban space does not directly lead to improved social relations and attitudes (cf. Laurence, 2014; Schlueter and Scheepers, 2010; Stolle et al., 2013). Encounters between individuals from different groups in public spaces are often accompanied by lack of understanding of 'difference', therefore, cross-cultural exchange in public space can result in 'parallel lives' and self-segregation instead of the strengthening of community ties (Cantle, 2004; Phillips, 2006). Given that encounters in public spaces are often fleeting and are constructed according to the rules of civility and anonymity, they provide little opportunity for sustained contact that might change people's understandings of those different from themselves. We argue that interactions in quasi-public spaces, such as consumption space, institutional space and socialisation space have more potential in shaping outgroup attitudes.

Consumption spaces, such as cafés, bars and restaurants, although embedded within public space, comprise environments where different rules of conduct operate. As Laurier and Philo (2006: 199) postulate, a café "provides (...) [a] form of temporary dwelling for its customer and, with it, some rights to privacy and private". People who pass each other in a street become 'neighbours' in a café and simultaneously enter reciprocal arrangement with other customers to obey certain rules in this space. Similarly, Watson's (2009) market study demonstrated that a café and a food van were attended by regular shoppers living in the neighbourhood who would visit market on a daily or weekly basis. There is also statistical evidence that encounters in local pubs and restaurants coupled with inter-ethnic partnerships play a 'brokering role' in forging new inter-ethnic neighbourhood

acquaintances (Schaeffer, 2013). Thus, although these spaces are 'public', more intimate connections and acquaintances can be developed there than with people occasionally encountered in a street or in a park, and because of that we would expect encounters in consumption space to have more positive effect on prejudice reduction.

Further, we argue that *institutional space*, such as the workplace and educational settings, is a specific type of places where encounters with difference are developed and sustained. On the one hand, the formality of such relations is guaranteed by employer-worker agreements or university rules and by equality laws; on the other hand, both institutional spaces are a realm where friendships can develop which stretch beyond that environment. However, when valued resources, such as status, power and pay are not equally redistributed in diverse workplaces then relations can be based on competition instead of cooperation (Harrison and Klein, 2007), especially for workers with lower socio-economic occupations co-workers because of greater vulnerability of their employment (DiTomaso et al., 2007). Even in university campuses which offer opportunities for intense and prolonged interactions with difference, intergroup communication can be hardened by institutional obstacles and developed along the lines of (un)privilege (Andersson et al., 2012). Yet, because residential segregation is often greater than workplace segregation, the workplace gives more opportunity to develop inter-ethnic friendships than residential areas (Ellis et al., 2004; Kokkonen et al., 2014). We therefore argue that intergroup contact in institutional spaces will have a stronger positive impact on attitudes than encounters in public and consumption space.

Socialisation spaces, such as sport clubs, interest clubs, activities around children's schools, voluntary associations or places of religious meetings, provide environments where social relations are often voluntarily initiated and predicated on a more equal status than in institutional spaces, therefore individuals are more likely to co-operate around common goals. Thus, we argue, they provide more opportunity for the development of 'meaningful contact' in accord with Allport's 'contact hypothesis' (1997[1954]) than encounters in public, consumption and institutional spaces. This hypothesis was supported by Stolle's and colleagues' (2008) research in Canada on the effects

of neighbourhood diversity. They found that not all residents are equally sensitive to neighbourhood diversity, but those who engage in neighbourhood life by talking to neighbours in quasi-public spaces have more positive attitudes towards outgroups. Likewise, Amin (2002) has also argued that community organisations, sport clubs or other spaces of association constitute grounds for effective inter-cultural communication and constructive dialogue in local communities, as they offer the potential for friendships that build upon identities shared across ethnic lines.

Finally, *private space* of familial relations constitutes another distinctive type of space, where people develop close ties that are characterised by stronger attachment than the social relations that operate in quasi-public spaces. While social relations developed in socialisation spaces are based on mutuality and trust, social ties in private spaces are disinterested (i.e. not based on any expectation in mutuality of relation), but rather are predicated on emotional bonds (Coleman, 1990). This aspect of familial ties is related to the involuntary nature of some private space encounters, especially those within immediate family. The home is therefore presumed to be a site of some of the most meaningful encounters with difference which resonate outside the familial space; for example, people living in a mixed household more often develop interethnic friendships (Muttarak, 2014: 91). Indeed, the tolerance developed and supported by spaces outside home, e.g. school, might clash with home values and in-turn could be followed selectively or by 'surface acting' without internalisation of these new values (Hemming, 2011). As such, we argue, that people with inter-ethnic contact in private space will be more tolerant towards ethno-religious difference than those encountering minorities in other types of space.

In sum, we have identified five types of space which form the basis of our analysis: public, consumption, institutional, socialisation and private spaces. These vary according to the quality of interaction that they facilitate as summarised in Table 1.

[Table 1 about here]

3. Data and Methods

3.1. The survey

The survey with 1522 residents in Leeds and 1499 in Warsaw was conducted between February-April 2012 in their homes, with a Computer Assisted Person Interview (CAPI) method. It was a representative survey with the adult population (18+). The sampling frame was based on Office for National Statistics Mid-Year estimates 2009 for gender and age and on data from the 2001 census in England and Wales for working status for Leeds, and on 2009 Central Statistical Office statistics and the 2002 census in Poland for Warsaw.

The sampling procedure was implemented in two steps. First, the population in each city was stratified by eight types of communities offering opportunities varying in contact with difference, which were created on the basis of secondary data using cluster analysis (see Authors, 2012). The interviews were assigned equally across them. Then, a random location quota sampling was applied. This sampling approach mixes a random selection of respondents with more purposive sampling across different demographic profiles. A number of sampling points based on lower level geographies, Output Areas (OAs) in Leeds and Statistical Regions (SRs) in Warsaw¹, were randomly selected (168 in Leeds and 136 in Warsaw). Quotas for gender, age (18-34, 35-54, 55+) and work status² were set and applied at the level of OAs/SRs, representative for the population of that unit. The samples thus provide a representative cross section of residents for each city population.

3.2. Dependent variables

We addressed outgroup attitudes by measuring respondents' affective attitudes and behavioural intentions towards minorities. We measured affective attitudes towards minorities with the commonly used 'feeling thermometer' (Dovidio et al., 2010). We asked about feelings towards the same five minority groups in both cities: Muslim people, Black people, Refugees/asylum seekers, Jewish people and Travellers/Gypsies/Roma: *People have different views on different people. For the next few questions, I would like to know how you feel about a number of groups of people. Please rate how you feel about them on a thermometer that runs from zero to a hundred degrees. The*

higher the number, the warmer or more favourable you feel towards that group. The lower the number, the colder or less favourable you feel towards that group. Respondents indicated their feelings on a special showcard with a thermometer on a scale from 0 to 100.

Behavioural intentions were measured by describing a hypothetical contact situation (Dovidio et al., 2010) with the same minority groups: *If the following people moved next door to you, to what extent, if at all, would you be friendly or not to towards them?* Interviewees indicated their response using a five-point scale from very unfriendly (1) to very friendly (5).

We control for in-group bias/favouritism (Hewstone, 2003) by excluding people of non-White British ethnicity (N=317) and non-Polish nationality from the analysis (N=19). As such, we use slightly two dissimilar majority-minority divisions, both, however, corresponding to different ways of categorising difference in each country. Mean scores of affective and behavioural intentions are presented in Table 2, where they were normalised to a 0-1 scale for comparativeness.

Respondents' attitudes towards the different minority groups are highly to moderately correlated one with another (see Table 3), what suggests that attitudes towards different outgroups have a common core and are associated one with another (Pettigrew, 2009; Zick et al., 2011). The highest levels of prejudice are observed towards travellers, gypsies, and Roma people in both cities. However, this attitude was less strongly correlated with other attitudes. Confirmatory factor analyses demonstrated higher uniqueness of this variable (i.e. lower relevance to the factor model). In consequence, we excluded it from the analysis and the final two measures we use are: a mean of affective attitudes towards Muslim people, Black people, Refugees/asylum seekers and Jewish people and a mean of behavioural intentions towards the same groups.

[Tables 2 & 3 about here]

3.3. Contact and places of encounters

We used a multi-response question asking whether respondents usually come into contact with people of different ethnicity and religion in specific sites. The question was formulated: *We'd like to know about the people you come into contact with in your day-to-day life. By coming into contact, we mean talking to people or doing something together, not just happening to be in the same place and passing each other by. In your day-to-day life, where, if at all, do you usually come into contact with people who... [have an ethnic background that is different from yours] [have a different religion from you]? Contact was defined as doing something together, such as talking, working, doing sport, engagement in a common social activity, not just happening to be in the same place. This operationalization corresponds to a definition of intergroup contact that has been used in previous studies on prejudice where contact is understood as a "face-to-face interaction between members of clearly defined groups" (Pettigrew and Tropp, 2006: 754). On the basis of the human geography literature on the spaces of encounters we asked about contact in a variety of sites and respondents could choose places of contact from a list of 9 different sites.*

In case of private space we used a different question to measure contact in this type of space. Only contact with ethnic minorities was measured and we asked about extended and immediate family members of different ethnic background. Later the sites of the most frequent contacts were classified into the five types of spaces as discussed above and demonstrated in Table 4. At the end we created five binary variables, each indicating whether an individual reported inter-ethnic/religious contact in a given type of space.

[Table 4 about here]

3.4. Analytical strategy and contextual-level controls

Our respondents are nested within neighbourhoods – Output Areas in Leeds (OAs; app. 300 residents and 0.22 km²) and Statistical Regions in Warsaw (SRs; app. 1,200 residents and 0.36 km²).

We employed a multilevel modelling which adjusts the standard error for spatial clustering, but also enables controlling for spatial similarities among individuals (Rabe-Hesketh and Skrondal, 2012), e.g. contextual opportunities to encounter minorities in public space and some other quasi-public spaces. The sample size at the second level of analysis varies from 1 to 11 in Leeds ($N_{\text{neigh}}=190$ OAs, on average of 6.5 people per area; $N_{\text{indiv}}=1236$) and from 1 to 12 in Warsaw ($N_{\text{neigh}}=156$ SRs, on average 9.5 people per area; $N_{\text{indiv}}=1481$)³. We run multilevel linear regressions with random intercepts in Stata 14⁴.

At the OAs/SRs level we include variables that refract contextual opportunities for encounters with difference in urban space, using comparable measures from the 2011 census in the UK and the 2002 census in Poland (2011 Polish Census data for small geographic areas are not available). First of all, higher *minority group size* increases the chances of interaction with members of minority ethnic groups (Vervoort et al., 2011; Huijts et al., 2014). We use the percentage of minority ethnic groups (non-White British residents) for Leeds, and percent of non-Polish residents for Warsaw⁵. Other studies link a lack of social participation with poverty and economic deprivation of a community (Laurence, 2014). Therefore, we control for *socio-economic deprivation* of an area by measuring the percentage of council housing⁶. Moreover, we control for residential mobility, since it could offer less opportunity for engaging in meaningful social interactions with people who are different (Tolsma et al., 2009). We used a proportional change in OA-population between 2001 and 2011 censuses for Leeds (percentage decrease or increase in relation to 2001 population), and for Warsaw percentage of residents that moved into the area after 1996⁷. Finally, the *demographic profile* of a spatial community impacts the lifestyle and availability of socialisation and consumption spaces, especially if children and younger cohorts dominate in an area (Schaeffer, 2013). Hence, we include the percentage of population aged less than 30 years at the neighbourhood level.

3.5. Individual level control variables

We control for basic *demographic characteristics*, such as: age, gender, marital status, (dis)ability conditions and religious affiliation, which impact individual preferences regarding socialising with others in urban spaces. People of lower income, manual occupations and lower education, whose position in the labour market is less secure and thus more disadvantaged, have more negative attributes towards other groups, because they are more often perceived by them as a threat and competitors over resources (Zick et al., 2011). We included education level (5 levels for Leeds and 4 levels for Warsaw)⁸ and employment status (employed = 1)⁹. We also controlled for life satisfaction (measured on a 5-point scale), since people less satisfied with their lives have a generally more sceptical approach towards people due to lower self-esteem (Hewstone et al., 2002: 580).

Finally, the question of *self-selection* into encounter and *reversed causality* in the relationship between outgroup attitudes and inter-ethnic contact has to be considered (Pettigrew and Tropp, 2006). More tolerant people may self-select into some social activities (Achbari, 2015; Janmaat, 2015; Van der Meer, 2015) and it could be alternatively argued that people with more negative orientation towards minority groups will be less likely to seek encounters with them. To diminish this problem we introduced an 'contact avoidance' variable based on a question asking "Have you ever done any of the following to people from that group because they are [minority group]" where the answers were: "Avoided them", "Said something negative to them", "Given them a dirty look" and "Made a physical gesture towards or at them (e.g. pushing, blocking them)" or "Something else" (Yes, avoided them = 1). This control variable could be less effective in case of involuntary contacts, which take place in private or institutional spaces, yet, it could be argued that people could still avoid relatives or work colleagues in the same way they would avoid contact with strangers in public or consumption spaces.

Missing dependent variables were deleted listwise and independent variables were dealt with using multiple imputation procedure in Stata 14 (StataCorp 2013). The final same sizes for Leeds are N=1228 for affective attitudes and N=1235 for behavioural attitudes, and N=1467 and N=1476 for

Warsaw, respectively. All independent variables were tested for possible multicollinearity effects. Descriptive statistics for independent variables are presented in Table 5.

[Table 5 about here]

4. Results and Discussion

United Kingdom has a history of a postcolonial immigration in last decades resulting in super-diverse population (Vertovec, 2007) and the rise of ‘melting-pot’ generation (British Future, 2012). Poland, in contrast, is slowly ethnically diversifying, yet these processes are more visible in Warsaw, which is said to be a city of ‘reviving multiculturalism’ (Ilczuk et al. 2006). It is thus not surprising that ethnic family diversity is greater in Leeds too. In Leeds almost every fifth respondent stated that they have a family member from a different ethnic background and 5% of respondents in Warsaw have family members of foreign origin (see Table 4). Encounters with people of different ethnic or religious background are more common in Leeds, too; nine out of 10 people have such interactions outside home in Leeds and five out of 10 in Warsaw. In consequence, residents of Leeds more often have contact with minority ethnic or religious groups in quasi-public spaces than residents of Warsaw: consumption (Leeds – 42% of respondents have such contacts in this space, Warsaw – 13%), institutional (41%, 16%) and socialisation (32%, 8%) spaces. Attitudes of people who have contacts with people of different ethnicity or religion in quasi-public spaces are significantly more positive than attitudes of those who do not. Would these differences hold true if we simultaneously control for various spaces of encounter?

We display the results of multilevel modelling in three steps. Models L1 and W1 demonstrate the results with contextual and individual-level demographic variables only. We add contact in private and one urban contact variable (combining information of all spaces, except family) in Models L2 and W2, while Models L3 and W3 introduce our main explanatory variables – five types of spaces of encounter. Table 6 displays the results from for affective attitudes and Table 7 – for behavioural

intentions. 'Aff' refers to models predicting affective attitudes, while 'Beh' to those modelling behavioural attitudes.

4.1. Exploring the role of contact in urban space

In the first step we look at the models containing individual level and contextual level control variables only. The first outcome variable, affective attitudes towards ethno-religious minorities, is not associated with the minority groups size at the neighbourhood level either in Leeds or Warsaw (L1-Aff and W1-Aff). Moreover, in Leeds none of the contextual variables play a significant role in shaping affective attitudes towards ethnic and religious minorities (L1-Aff), but the percentage of non-White British residents does improve behavioural intentions towards minority neighbours (L1-Beh), confirming previous results that effects of contextual diversity are stronger for within-neighbourhood indicators (Van der Meer and Tolsma, 2014). In Warsaw, people living in proximity to younger neighbours are more likely to express more favourable affective attitudes towards ethnic and religious difference, while those in areas with a higher share of council housing – are less likely (W1-Aff).

At the individual level, contact avoidance is the most significant predictor of both dimensions of attitudes in both cities¹⁰. Residents in Leeds and Warsaw who declared to have avoided some minority ethnic or religious groups in the past, expressed significantly less positive affective and behavioural attitudes towards them. For example, in Leeds predicted affective attitudes (measured on a scale 0-100; we computed the marginal effects keeping all other characteristics at means) are 50.6 for people who have avoided cultural minorities in comparison to 66.4 for people who have not avoided them. The discrepancy is even wider among Polish respondents and the respective average attitudes are 42.2 and 66.2. We replicated the final models without this variable and they are presented in the Appendix A.

In models L2 and W2 we added private space encounter and one urban contact variable without dividing it into 'public', 'consumption', 'institutional' or 'socialisation' spaces. People who report

frequent interactions with either ethnic or religious minorities in urban space have more favourable affective attitudes towards them, but such overall urban contact is not related to behavioural intentions. If we were to stop our analysis here, we would obtain mixed results regarding the role of interethnic contact for prejudice reduction in both cities. Hence, in further steps we investigate different types of space in which the contact occurs.

4.2. Spaces of encounter and outgroup attitudes¹¹

In the final models L3 and W3 we split the urban contact variable into four types of spaces of encounter: public, consumption, institutional, and socialization space, with private space contact kept as a separate type. We examine which type of space is associated with more positive attitudes. After controlling for the respondents' demographic profile, contextual characteristics of neighbourhoods and the selection bias, there are two types of space in Leeds that are related with more positive affective attitudes – the institutional space and socialisation space. In other words, in Leeds people who interact with minority ethnic and religious groups at work or at the university and in various spaces of social activities are more likely to express favourable feelings towards them than people who have no such interactions (L3-Aff). However, we observe different results for behavioural intentions towards minorities. Contact in the institutional space does not reduce reservation towards potential minority ethnic/religious neighbours. Instead, only encounters in socialisation spaces are significantly and positively associated with behavioural intentions towards such minority groups in Leeds (L3-Beh). People who socialise with ethnic or religious outgroup members are more likely to be friendly towards them as a neighbour.

In sum, in Leeds having inter-ethnic contacts in institutional and socialisation spaces is associated with less affective prejudice, i.e. more liking of ethno-religious minorities, but only encounters in socialisation spaces (e.g. hobby clubs, social organisations) are related to the preference of sharing neighbourhood space with minorities. Previous research demonstrated that workplace diversity has an unclear effect on group relationships and it depends on a wider societal context (Knippenberg

and Schippers, 2007). Both studied countries have implemented equality and anti-discrimination legislation in a response to the EU directives, but in Poland equality norms predominantly focused on rights and duties of employers and employees rather than on the protection of minorities (Bojarski, 2011)¹². Hence, it could be argued that equality legislation in the British labour market may be more supportive than in Polish labour market in creating a welcoming environment for people of different backgrounds. Secondly, work arrangements and status within an institution could be another explanatory factor, since 'self-managed' teams (i.e. without hierarchical management) foster cooperation and cross-ethnic friendships (Payne et al., 2013). We have not asked about the position within institutions, so we used the level of qualifications as a proxy. However, the interaction term between qualifications and contact in the institutional space is not significant, indicating that encounters in institutional space impact people of different qualifications in a similar way (data not shown).

It seems that in Leeds contact in socialisation spaces have the highest potential to improve attitudes towards minorities and be translated from 'abstract' affective attitudes into more 'lived experience' and behaviours. Socialisation spaces include voluntary groups, hobby clubs, social organisations or places of worship, so they facilitate contacts of higher quality than encounters in public space (Lancee and Dronkers, 2011). In these kinds of space people do not meet, because they are of similar ethnicity or religion, but there are other commonalities beyond these characteristics that unite them: interests and social activities. Thus, people who are from an outgroup (e.g. of different ethnic background) are 're-categorised' into a different in-group (e.g. people engaged in the same social activity) that decreases intergroup bias and supports improvement of inter-ethnic relations (Hewstone et al., 2002).

Turning now to the results for Warsaw, encounters in public (e.g. streets, park, transport) and consumption spaces (e.g. cafés, restaurants, bars, pubs) are related to higher affective attitudes (W3-Aff), but again, only encounter in quasi-public spaces of consumption, contribute to the improvement of behavioural attitudes and more openness towards potential neighbours of minority

ethnic/religious background (W3-Beh). Why do consumption spaces play a more significant role in prejudice reduction in Warsaw than in Leeds? One explanation could be the different status of some cafés and bars in Poland, which often have played a 'civic' role for both intelligentsia and working class people, serving in socialism as safe 'enclaves' from state control and contemporarily as gathering space for urban activists (Kusiak, 2012). As such, consumption spaces in Warsaw play a similar role to socialisation spaces in Leeds, where members of the minority ethnic and religious groups are met and their status becomes redefined from the 'outsiders' into participants of a common activity.

Another reason could be related to different age and family structure of minority populations in both cities. According to 2011 census, almost every third ethnic minority resident in Leeds was aged 19 or less (32%), while in Warsaw less than one in five residents were in that age group during the census in 2002 (19%)¹³. In consequence, immigrants in Warsaw are more likely to socially mix with Polish people in spaces like cafés and bars than in various socialisation spaces, which are more preferable to people with children. Additionally, and related to that, immigrants in Poland could be less likely to participate in the same social organisations as Polish people do. A study based on the European Social Survey (waves 2002 and 2008) on civic participation of immigrants indicates that immigrants are initially less likely to be members of volunteering organisations or other action groups, but they are much more likely to do so after 20 years of residence in a country (Aleksynska, 2011). Considering a shorter period of unconstrained immigration to Poland which has started after 1989, we could suspect that such a mixing process within socialization spaces could have just begun in Poland (Grzymała-Kazłowska, 2014), while in the UK migratory inflows have been ongoing for a few decades and ethnic minority groups are more engaged in the civic society contemporarily (McAndrew and Voas, 2014). Hence, our results indicate that consumption places provide the space where residents in Warsaw engage in more in-depth interactions with people of non-Polish nationality. The positive relationship between contact in consumption space and outgroup attitudes is stronger for people living in more ethnically diverse neighbourhoods. The moderating role of

contextual diversity is beyond the scope of this paper and some results are provided in Supplementary Material B.

We also hypothesised that people with minority ethnic family members will be most tolerant, since their encounters with difference occur in the setting facilitating intimate relations, and thus, they should have more respectful attitudes towards others. In Warsaw family diversity is positively related to an improvement in behavioural intentions, but not to an improvement of affections towards people of different ethnicity and religion. In Leeds encounters in private space are not significant predictors of attitudes. Only in model without the 'contact avoidance' variable (Table A2), we observe the same pattern as in Warsaw. When encounters are limited to a single family member, the exempting process is likely to occur (Matejskova and Leitner, 2011: 734) – i.e. the individual is perceived to be exceptional and not to represent a minority group or minorities in general, so in turn, prejudice towards minorities may be not challenged. Interestingly, such exceptionalism might operate in Leeds, where inter-ethnic unions are more common than in Warsaw.

[Tables 6 & 7 about here]

5. Conclusions

Many studies across Europe have recently investigated the relationship between growing ethnic diversity and social cohesion, including inter-group attitudes, trust or cooperation (Van der Meer and Tolsma, 2014). However, most of these studies do not recognise the multiplicity of forms of encounter that extend beyond the neighbourhood space (Van Kempen and Wissink, 2014). In this paper we have responded to the need for a more systematic investigation of attitudes towards minorities in urban space that have been both expressed in human geography literature on the spaces of encounters (Hemming, 2011; Matejskova and Leitner, 2011; Valentine, 2008) and social science literature on social cohesion (Huijts et al., 2014; Laurence, 2014; Vervoort et al., 2011). Drawing on data from a representative survey conducted in Leeds and Warsaw, we examined which

spaces of encounters have the strongest effect on attitudes and behavioural intentions towards people from ethno-religious minority background. In doing so, we divided spaces of encounters into five types: public (streets, parks, local facilities (e.g. shops) and public transport), consumption (cafés, restaurants, bars and pubs), institutional (workplace and study), socialisation (social organisation, hobby and sport clubs, child's school) and private (family). We argued that since interactions facilitated by each space differ in the degree of intimacy and formality, contact in each space will differently impact outgroup attitudes. We expected that, in general, contact – operationalised as engagement in an interaction with people of different ethnicity or religion – will be positively associated with attitudes, but its effects will be the strongest in case of encounters in private space, where close ties are developed, and the weakest in case of public space, where more fleeting interactions take place. As more tolerant people may self-select into more diverse spaces (Janmaat, 2015; Van der Meer, 2015), we controlled for contact avoidance and included in our models contact in different types of space simultaneously.

The provided statistical analysis has demonstrated that 'meaningful encounters' occur in different spaces in Leeds and Warsaw. Our results partially support our hypothesis that encounters in quasi-public spaces have a stronger effect on attitudes than encounters in public spaces, but we did not confirm the hypothesized ordering of the impact strength of the spaces. Even though encounters in public space were not the weakest predictor of intergroup relations in all models, only in Warsaw contact in public spaces had a significant and positive impact on affective attitudes after other types of encounters, taking place in smaller-scale spaces, were added to the models. Importantly, contacts in dissimilar types of space hold a prejudice-reduction potential in both cities. In Leeds people encountering difference in institutional and socialisation spaces expressed more favourable affective attitudes towards ethnic and religious minorities, whereas the behavioural propensity to have neighbours from minority groups was linked to family and socialisation space experiences. Hence, in Leeds encounters in institutional settings contribute to an increase in sympathy towards ethnic and religious minorities, but this 'taste for diversity' (Blokland and Van Eijk,

2010) does not translate into the willingness to have positive contact with minority neighbours. Instead, encounters in socialisation spaces significantly reduce reservation towards potential, new outgroup neighbours. Meanwhile, in Warsaw encounters with people of non-Polish nationality and minority religion in public and consumption spaces are positively associated with emotional attitudes, but only contact in consumption spaces is an important predictor of behavioural intentions to be friendly towards minority neighbours. With lower levels of immigration, younger migrants and less 'advanced' social mixing of majority and minority population in civic society in Poland, bars, restaurants and other leisure clubs provide space for 'meaningful encounters' with difference for residents in Warsaw. As a consequence, in both contexts different spaces facilitate encounters based on active choice which may lead to the development of interethnic friendships (cf. Dirksmeier, 2014).

We also argued that interethnic contact brought through family space will have the strongest positive role in prejudice reduction. On the one hand, having an ethnic minority member in the family does not increase affective attitudes towards difference. On the other hand, family encounters do reduce the behavioural reservations related to sharing neighbourhood space with minority groups – so although a diverse family does not facilitate 'liking' ethnic or religious outgroup members, it may still teach how to live with difference. This mismatch between emotional and behavioural preferences towards minority groups exposes the complexities of prejudice, because even intimate, but selective encounters with 'difference' in private space do not necessarily produce more favourable emotions towards 'others' in general.

In sum, although ethnic diversity increases meeting opportunities with ethnic minorities and facilitates more frequent interactions with neighbours and other residents (Huijts et al., 2014; Schaeffer, 2013), inter-ethnic contact in public spaces is not associated with lower prejudice level either in Leeds or Warsaw to the same extent as encounters in some other spaces are. Importantly, 'meaningful encounters', which change attitudes towards ethnic or religious minorities in positive ways, could take place in different quasi-public spaces in different socio-cultural contexts. The

obtained results point to a need for more conceptual work to explore how and why some encounters become 'meaningful' in certain national settings, while others do not, and what factors moderate encounters in urban space.

Our study has some limitations, which we optimistically consider a future research agenda. Although our survey investigated the spatial dimension of urban encounters with difference, other qualities of contact – due to length limitation of our questionnaire – were left unmeasured. We have not asked about the frequency of contact (Huijts et al., 2014) or with whom the contact occurs, i.e. whether these are close friends, neighbours or strangers (Dirksmeier, 2014). It could be argued that after controlling for the frequency of interaction and with whom a person engages in a contact, the importance of space of encounter will disappear. Moreover, other studies confirmed that some inter-ethnic contacts could be an unpleasant experience and instead of prejudice reduction they can strengthen it (Koopmans and Veit, 2014). Hence, contact valence could be another attribute to include in quantitative measurement tools. Also, it could be worth exploring where exactly in the city space inter-ethnic/religious encounters take place – within respondents' neighbourhoods, in wider communities (district or ward level) or in more distant to home locations. Are there any places in a studied city which are more supportive of 'meaningful encounters'? Is this a pub in a busy city centre, where people can 'rub along together' (Wessel, 2009), or a community managed social club (Amin, 2002). Such geography of encounters could be explored in more complex way by developing a 'mobile survey' – a self-administered survey which is answered on a smartphone, and it also allows device paradata collection, like geolocation (Callegaro et al., 2015). If combined with a longitudinal design, the survey could produce rich research data on the causal relationship between encounters in different urban spaces and outgroup attitudes. Although we tried to control for self-selection into contact, data collected in our cross-sectional survey does not allow inferring causality between contact and attitudes, and remains correlational in nature.

In sum, presented analysis brings new insights into studies investigating the relationship between ethnic diversity and social cohesion and the role of inter-group contact. To-date most studies focus

on one dimension of inter-ethnic interactions (e.g. friendships) or one space of contact (e.g. neighbourhood or workplace) without recognising the variety of spaces of encounters. We demonstrated that research examining the effects of ethnic diversity and the moderating role of contact should include multiple spaces of encounters within and outside neighbourhoods. We believe that future studies should pay closer attention not only to the type of space in which contact takes place, but also to the frequency of contact and reasons for 'entering' into the particular space. Nonetheless, our analysis showed that *where* the contact occurs should be more often addressed in the 'diversity effect' studies. This outcome is also important for local urban policies which should direct policy measures to acknowledge the different potential brought by particular spaces of encounter in building more cohesive communities.

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Notes:

¹ OAs and SRs with less than 80 addresses (to ensure the interviewer had enough addresses to achieve the quota) and more than 1000 addresses (to exclude areas with hospitals/prisons/university accommodation) were removed from the sampling frame.

² Working population was defined as being employed or self-employed and not working population included people being unemployed and economically inactive, but also full-time students who were inactive in the labour market.

³ The number of 'singleton' neighbourhoods was low in both cities (less than 1%) and considering the relatively high number of level-2 units, it should have little impact on the quality of the estimations (Bell et al. 2010).

⁴ Models predicting behavioural attitudes were also re-run using ordered multilevel regression (with listwise deletion of missing data, since multiple imputation does not work with ordered multilevel regression), after recoding values into 3-point ordered scale (following the proportional odds assumption criterion, i.e. whether the independent variables exert the same effect on the odds regardless of the threshold). Results of multilevel ordered and linear regressions for behavioural attitudes were the same for both cities.

⁵ Due to data availability we use two dissimilar categories of majority group for both cities, which correspond to different ways in which ethnic majority population is defined in both countries.

⁶ In Leeds it is app. 17% of housing, while in Warsaw 10% is own/rented from city council. However, in both context eligibility criteria are similar and are based on the household income and other related life circumstances (e.g. poor health conditions of a person or family member).

⁷ This is another limitation in terms of comparability of both datasets, but data on internal migration and residential mobility are differently recorded in both countries. In case of Leeds some 2001 Output Areas (OAs) which grew in size, were divided into a few Output Areas in 2011. Our respondents were classified by 2001 OAs, so data for 2011 OAs was recoded to fit 2001 areas, using ONS look-up table.

⁸ *Leeds*: Level 1 – no qualifications, 2 – GCSE, O-Level or CSE qualifications, 3 – vocational qualifications (NVQ1+2), 4 – A level qualifications (NVQ3), 5 – tertiary education; *Warsaw*: Level 1 – no education finished; 2 – primary education, 3 – secondary vocational education, 4 – secondary and postsecondary education, 5 – tertiary educations. For Warsaw Levels 1 and 2 were merged due to low number of cases without any school finished.

⁹ Occupation level was highly correlated with education level and it was recorded for people that were in employment in the time of the survey only.

¹⁰ For Leeds the Spearman's rank correlation coefficient (ρ) between attitudes and contact avoidance is -0.29 for both emotional attitudes and behavioural orientations; for Warsaw the coefficients are: -0.40 and -0.30, respectively.

¹¹ The general pattern holds true when separate models are run for each ethnic prejudice separately.

¹² In the UK the Equality Act was introduced in 2010 and it codified previous acts, among others the Equal Pay Act of 1970 and the Race Relations Act of 1976. The Equal Treatment Act was introduced in Poland in 2010, and previous equality norms were guaranteed by the Constitution of 1997 and 1974 Labour Code.

¹³ The age distribution for non-White British in Leeds is: 0-14 – 24.5%; 15-24 17.9%; 25-44 37.7%; 45-64 14.1% (2011 Census); 65+ 6.7%; for non-Polish residents in Warsaw: 13.4%, 10.3%, 43.3%, 25.5%, 7.4%, respectively (2002 census).

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Tables and Figures

Table 1. Contact facilitated by type of space and hypothesised impact on outgroup attitudes

Type of space	Facilitated contact	Hypothesised impact on attitudes
Public space	Fleeting interactions	<i>Weakest</i>
Consumption space	Fleeting, but longer interactions & acquaintances	
Institutional space	Social relations, acquaintances & friendships	
Socialisation space	Voluntary social relations & friendships	
Private space	Close social ties & involuntary relations	

Source: own elaboration on the basis of the literature.

Table 2. Grand means (M) and standard deviations (SD) of affective (Aff, scale 1-100) and behavioural attitudes (Beh, scale 1-5) in Leeds and Warsaw

		Leeds				Warsaw			
		Aff		Beh		Aff		Beh	
		M	SD	M	SD	M	SD	M	SD
(1)	Muslim	0.61	0.24	0.74	0.25	0.53	0.27	0.56	0.26
(2)	Black	0.70	0.22	0.80	0.20	0.69	0.27	0.68	0.24
(3)	Refugees, asylum seekers	0.52	0.25	0.65	0.29	0.62	0.26	0.64	0.24
(4)	Jewish	0.69	0.21	0.81	0.19	0.60	0.28	0.61	0.26
(5)	Travellers, gypsies, Roma	0.50	0.24	0.58	0.30	0.50	0.28	0.46	0.27
Outgroup ethno-religious attitudes (mean of 1-4)		0.63	0.19	0.70	0.23	0.60	0.24	0.55	0.22

Note: Means were normalised on a scale 0-1. Reliability of the final scale (Cronbach's alphas): Leeds – Aff: 0.85; Beh: 0.87; Warsaw – Aff: 0.87; Beh: 0.85.

Table 3. Correlations between affective and behavioural attitudes in Leeds and Warsaw

		Affective attitudes (<i>r</i>)*									
		Leeds					Warsaw				
		Muslim people (1)	Black people (2)	Refugees, asylum seekers (3)	Jewish people (4)	Travellers, gypsies, Roma (5)	Muslim people (1)	Black people (2)	Refugees, asylum seekers (3)	Jewish people (4)	Travellers, gypsies, Roma (5)
(1)		1.00					1.00				
(2)		0.67	1.00				0.62	1.00			
(3)		0.68	0.51	1.00			0.63	0.68	1.00		
(4)		0.60	0.65	0.46	1.00		0.65	0.67	0.67	1.00	
(5)		0.50	0.49	0.55	0.38	1.00	0.65	0.59	0.66	0.73	1.00
		Behavioural attitudes (ρ)**									
(1)		1.00					1.00				
(2)		0.79	1.00				0.53	1.00			
(3)		0.73	0.62	1.00			0.54	0.67	1.00		
(4)		0.73	0.81	0.56	1.00		0.59	0.62	0.63	1.00	
(5)		0.54	0.47	0.66	0.44	1.00	0.53	0.39	0.46	0.54	1.00

Notes: * All Pearson's correlations sig. at $p < 0.001$; ** All Spearman's rank correlations sig. at $p < 0.001$.

Table 4. Spaces of encounter: questionnaire questions, multi-response answers and classification of spaces into five types

Questions	Answers	Spaces of encounter	
<p>In your day-to-day life, where, if at all, do you usually come into contact with people who ...have an <i>ethnic background</i> that is different from yours? ... have different <i>religion</i> from yours?</p>	<p>In your local public spaces (e.g. local streets, local park)</p>	<p>public space</p>	
	<p>In local facilities (e.g. shops, doctor's surgery, library)</p>		
	<p>On local public transport</p>		
		<p>At a local cafe or restaurant</p>	<p>consumption space</p>
		<p>At a local bar, pub or club</p>	
		<p>At your work, school or college</p>	<p>institutional space</p>
		<p>At a group, club or organisation you belong to (e.g. sports/social club, voluntary group)</p>	<p>socialisation space</p>
		<p>At your child's crèche, nursery or school</p>	
<p>At a place of worship or other religious meeting place</p>			
<p>Do any of your family have an <i>ethnic background</i> that is different from yours?</p>		<p>Yes, somebody from my immediate family</p>	
		<p>Yes, somebody from my extended family</p>	

Table 5. Descriptive statistics

Variables	Leeds		Warsaw	
	Mean or Percent	Min-Max	Mean or Percent	Min-Max
<i>Contextual variables OA/SR-level</i>				
% non-WB/non-Polish residents	13.9	0.8-94.9	0.7	0-5.8
% population change/new residents	3.1	-34.3-1166.1	5.8	0.8-63.1
% council housing	17.4	0-85.0	16.9	0-96.7
% aged under 30 years old	38.9	13.9-97.9	35.6	24.1-65.4
<i>Individual-level variables</i>				
Female	52.2%	0/1	55.1%	0/1
Age	50.2	18-94	49.1	18-93
Married	45.9%	0/1	45.9%	0/1
Disabled	23.7%	0/1	28.0%	0/1
Christian religion (ref.) ^a	77.3%	0/1	92.7%	0/1
Non-Christian	2.3%	0/1	} 7.3%	0/1
No religion	20.4%	0/1		
Education Level 1 (ref.) ^b	21.8%	0/1	} 4.4%	0/1
Level 2	14.9%	0/1		
Level 3	19.4%	0/1		
Level 4	13.2%	0/1		
Level 5	30.7%	0/1		
Employed	47.4%	0/1	47.1%	0/1
Life satisfaction	1.9	1-5	2.0	1-5
Contact avoidance	11.5%	0/1	18.5%	0/1
<i>Contact with people of different ethnic background or different religion</i>				
Private space	18.3%	0/1	4.7%	0/1
All urban spaces	87.2%	0/1	51.5%	0/1
Public space	71.7%	0/1	41.4%	0/1
Consumption space	41.9%	0/1	13.5%	0/1
Institutional space	41.4%	0/1	15.4%	0/1
Socialisation space	31.5%	0/1	8.5%	0/1

Notes: Sample sizes after excluding ethnic minority groups Leeds: N_{indiv}=1236, N_{neighb} = 190; Warsaw: N_{indiv}=1481, N_{neighb} = 156. Means and proportions were computed after multiple imputation of missing data. ^a For Warsaw data religion was coded Christian=0 and Other=1; ^b For Warsaw data education levels 1 and 2 were merged and this joint category constitutes a reference category.

Table 6. Multilevel linear regression analyses of affective attitudes towards ethnic and religious minorities (unstandardized coefficients (b) and standard errors (SE))

Variables	Model Aff-1				Model Aff-2				Model Aff-3			
	Leeds		Warsaw		Leeds		Warsaw		Leeds		Warsaw	
	b	(SE)	b	(SE)	b	(SE)	b	(SE)	b	(SE)	b	(SE)
Neighbourhood context												
% non-White British / non-Polish	0.004	(0.036)	0.528	(0.918)	-0.002	(0.035)	0.385	(0.946)	-0.0004	(0.0355)	0.611	(0.976)
% popul. change / new residents	0.006	(0.022)	-0.131	(0.092)	0.004	(0.022)	-0.137	(0.093)	0.006	(0.022)	-0.123	(0.090)
% council housing	-0.045	(0.037)	-0.084**	(0.044)	-0.042	(0.035)	-0.086**	(0.043)	-0.035	(0.036)	-0.085*	(0.043)
% aged under 30 years old	0.080	(0.051)	0.456***	(0.126)	0.076	(0.051)	0.455***	(0.126)	0.058	(0.052)	0.443***	(0.124)
Individual characteristics												
Female	3.244***	(1.062)	5.841***	(0.991)	2.852***	(1.072)	5.811***	(1.003)	2.780***	(1.062)	5.738***	(1.003)
Age in years	0.001	(0.035)	0.080**	(0.033)	0.010	(0.035)	0.096***	(0.033)	0.021	(0.035)	0.105***	(0.034)
Married	0.747	(1.390)	-0.825	(1.035)	0.891	(1.378)	-0.613	(1.001)	0.773	(1.378)	-0.618	(1.009)
Disabled	2.845*	(1.458)	-1.886	(1.332)	2.613*	(1.452)	-1.821	(1.355)	2.648*	(1.462)	-1.908	(1.354)
Religion Christian	ref.		ref.		ref.		ref.		ref.		ref.	
Religion Non-Christian	6.903**	(3.135)			6.661**	(3.162)			6.047*	(3.154)		
No religion	0.023	(1.487)	4.001**	(1.889)	-0.055	(1.470)	3.644*	(1.980)	0.016	(1.482)	3.327*	(2.003)
Education Level 1	ref.		ref.		ref.		ref.		ref.		ref.	
Education Level 2	4.709**	(2.099)			4.160*	(2.137)			4.200**	(2.126)		
Education Level 3	1.990	(2.048)	3.670	(2.779)	1.418	(2.054)	3.555	(2.710)	1.310	(2.079)	3.586	(2.712)
Education Level 4	5.331**	(2.251)	5.848**	(2.814)	4.879**	(2.267)	5.641**	(2.770)	4.424*	(2.305)	5.668**	(2.786)
Education Level 5	8.280***	(1.738)	8.903***	(2.881)	7.502***	(1.778)	8.451***	(2.826)	6.732***	(1.835)	8.554***	(2.818)
Employed	0.121	(1.151)	-0.751	(1.154)	-0.179	(1.149)	-0.864	(1.144)	-0.816	(1.267)	-0.754	(1.143)
Life satisfaction	-1.845***	(0.701)	-0.343	(0.859)	-1.792**	(0.700)	-0.436	(0.869)	-1.677**	(0.698)	-0.366	(0.863)
Contact avoidance	-15.764***	(1.644)	-23.944***	(1.781)	-15.760***	(1.697)	-23.714***	(1.771)	-15.934***	(1.691)	-23.611***	(1.748)
Spaces of encounter												
Private space					1.020	(1.431)	2.806	(2.253)	0.926	(1.415)	2.928	(2.255)
All urban spaces					4.631**	(2.093)	3.925***	(1.471)				
Public space									1.687	(1.423)	2.634*	(1.452)
Consumption space									0.087	(1.192)	2.912*	(1.568)
Institutional space									2.975**	(1.251)	0.627	(1.494)
Socialisation space									2.163*	(1.296)	0.922	(1.807)
Constant	58.872***	(4.267)	39.653***	(5.744)	55.188***	(4.284)	37.138***	(5.820)	56.490***	(4.118)	37.094***	(5.800)
δ_u^2 (% explained)	12.66 (64.4%)		99.26 (32.5%)		12.18 (65.8%)		96.37 (34.4%)		13.33 (62.6%)		93.82 (34.1%)	
δ_e^2 (% explained)	308.73 (9.5%)		311.15 (23.3%)		306.85 (10.0%)		308.32 (24.0%)		304.98 (10.6%)		311.9 (24.1%)	
$N_{\text{indiv}}/N_{\text{neigh}}$	1228/190		1467/156		1228/190		1467/156		1228/190		1467/156	

Notes: Significance level * p<0.1, ** p<0.05, *** p<0.01 (2-tailed).

Table 7. Multilevel linear regression analyses of behavioural attitudes towards ethnic and religious minorities (unstandardized coefficients (b) and standard errors (SE))

Variables	Model Beh-1				Model Beh-2				Model Beh-3			
	Leeds		Warsaw		Leeds		Warsaw		Leeds		Warsaw	
	b	(SE)	b	(SE)	b	(SE)	b	(SE)	b	(SE)	b	(SE)
Neighbourhood context												
% non-White British/ non-Polish	0.004**	(0.002)	0.010	(0.035)	0.004**	(0.002)	0.012	(0.036)	0.004**	(0.002)	0.012	(0.037)
% popu. change / new residents	0.001	(0.001)	0.000	(0.004)	0.001	(0.001)	-0.001	(0.003)	0.001	(0.001)	0.000	(0.004)
% council housing	0.0002	(0.0016)	-0.002	(0.001)	0.0003	(0.0016)	-0.002	(0.001)	0.0004	(0.0016)	-0.002	(0.001)
% aged under 30 years old	-0.0001	(0.0021)	-0.001	(0.005)	-0.0002	(0.0021)	-0.001	(0.005)	-0.0003	(0.0022)	-0.001	(0.005)
Individual characteristics												
Female	0.172***	(0.040)	0.247***	(0.034)	0.164***	(0.039)	0.245***	(0.034)	0.166***	(0.040)	0.242***	(0.033)
Age in years	-0.002	(0.001)	0.001	(0.001)	-0.002	(0.001)	0.001	(0.001)	-0.001	(0.001)	0.002	(0.001)
Married	-0.001	(0.050)	-0.030	(0.043)	0.001	(0.050)	-0.031	(0.042)	-0.012	(0.050)	-0.030	(0.042)
Disabled	0.108*	(0.063)	-0.035	(0.055)	0.099	(0.062)	-0.033	(0.055)	0.110*	(0.063)	-0.041	(0.055)
Religion Christian	ref.		ref.		ref.		ref.		ref.		ref.	
Religion Non-Christian	-0.017	(0.143)	0.180**	(0.078)	-0.026	(0.145)	0.168**	(0.076)	-0.052	(0.146)	0.145*	(0.079)
No religion	-0.057	(0.055)			-0.059	(0.055)			-0.055	(0.055)		
Education Level 1	ref.		ref.		ref.		ref.		ref.		ref.	
Education Level 2	0.101	(0.082)			0.089	(0.083)			0.091	(0.083)		
Education Level 3	0.017	(0.088)	0.272**	(0.129)	0.011	(0.088)	0.268**	(0.126)	0.004	(0.088)	0.263**	(0.127)
Education Level 4	0.108	(0.088)	0.293**	(0.129)	0.106	(0.088)	0.284**	(0.127)	0.089	(0.087)	0.276**	(0.128)
Education Level 5	0.263***	(0.073)	0.423***	(0.125)	0.250***	(0.074)	0.401***	(0.122)	0.220***	(0.074)	0.390***	(0.123)
Employed	0.024	(0.046)	0.023	(0.045)	0.020	(0.046)	0.027	(0.043)	0.029	(0.052)	0.022	(0.042)
Life satisfaction	-0.121***	(0.028)	-0.068**	(0.032)	-0.122***	(0.027)	-0.074**	(0.032)	-0.120***	(0.027)	-0.069**	(0.032)
Contact avoidance	-0.779***	(0.072)	-0.714***	(0.063)	-0.775***	(0.072)	-0.713***	(0.063)	-0.781***	(0.072)	-0.712***	(0.063)
Spaces of encounter												
Private space					0.081	(0.055)	0.436	(0.088)	0.078	(0.055)	0.414***	(0.086)
All urban spaces					0.069	(0.075)	0.036	(0.045)				
Public space									-0.033	(0.055)	0.001	(0.047)
Consumption space									0.036	(0.047)	0.134**	(0.062)
Institutional space									0.007	(0.059)	0.030	(0.051)
Socialisation space									0.113**	(0.051)	0.099	(0.068)
Constant	4.162***	(0.159)	3.303***	(0.230)	4.092***	(0.166)	3.253***	(0.229)	4.122***	(0.161)	3.212***	(0.231)
δ_u^2 (% explained)	0.08 (33.1%)		0.10 (21.0%)		0.08 (32.6%)		0.10 (21.3%)		0.08 (32.4%)		0.10 (21.1%)	
δ_e^2 (% explained)	0.44 (15.7%)		0.45 (18.9%)		0.44 (16.0%)		0.44 (20.5%)		0.44 (16.5%)		0.44 (21.1%)	
$N_{\text{indiv}}/N_{\text{neigh}}$	1235/190		1476/156		1235/190		1476/156		1235/190		1476/156	

Notes: Significance level * p<0.1, ** p<0.05, *** p<0.01 (2-tailed).

Appendix A. Replicated models without 'contact avoidance' variable

We replicated final models Aff-3 and Beh-3 without the 'contact avoidance' variable. The results for the main explanatory variables remain very similar. Without this variable contact in public spaces becomes positive and statistically significant for affective attitudes in Warsaw, and private space contact reaches significance for behavioural attitudes in Leeds. This might indicate that some selection into contact occurs in these spaces.

Table A1. Multilevel linear regression analyses of affective attitudes towards ethnic and religious minorities (unstandardized coefficients (b) and standard errors (SE))

Variables	Model Aff-3a			
	Leeds		Warsaw	
	b	(SE)	b	(SE)
Neighbourhood context				
% non-White British / non-Polish	0.023	(0.037)	0.503	(1.011)
% population change / new residents	0.013	(0.023)	-0.131	(0.093)
% council housing	-0.031	(0.039)	-0.117**	(0.045)
% aged under 30 years old	0.032	(0.053)	0.482***	(0.135)
Individual characteristics				
Female	3.376***	(1.102)	6.989***	(1.174)
Age in years	0.020	(0.037)	0.157***	(0.035)
Married	0.897	(1.393)	-0.646	(1.136)
Disabled	1.924	(1.505)	-2.990*	(1.648)
Religion Christian	<i>ref.</i>		<i>ref.</i>	
Religion Non-Christian	5.741*	(3.401)	5.583***	(2.087)
No religion	-0.092	(1.523)		
Education Level 1	<i>ref.</i>		<i>ref.</i>	
Education Level 2	4.528*	(2.248)		
Education Level 3	0.960	(2.126)	2.928	(3.486)
Education Level 4	5.339**	(2.387)	5.871	(3.661)
Education Level 5	8.567***	(1.870)	9.380***	(3.552)
Employed	-1.398	(1.327)	-0.633	(1.206)
Life satisfaction	-1.628**	(0.701)	-0.969	(0.969)
Contact avoidance	-	-	-	-
Spaces of encounter				
Private space	1.513	(1.449)	2.576	(2.474)
All urban spaces	-	-	-	-
Public space	1.560	(1.441)	4.316***	(1.649)
Consumption space	-0.249	(1.248)	2.502	(1.858)
Institutional space	3.076**	(1.365)	1.259	(1.728)
Socialisation space	1.658	(1.342)	0.717	(2.057)
Constant	55.044***	(4.419)	29.562***	(6.499)
δ_{ii}^2 (% explained)		15.77 (55.7%)		106.69 (27.4%)
δ_{e}^2 (% explained)		325.08 (4.7%)		374.78 (7.7%)
$N_{\text{indiv}}/N_{\text{neigh}}$		1228/190		1467/156

Notes: Significance level * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$ (2-tailed).

Table A2. Multilevel linear regression analyses of behavioural attitudes towards ethnic and religious minorities (unstandardized coefficients (b) and standard errors (SE))

Variables	Model Beh-3a			
	Leeds		Warsaw	
	b	(SE)	b	(SE)
Neighbourhood context				
% non-White British/ non-Polish	0.005***	(0.002)	0.008	(0.037)
% mobile population	0.001	(0.001)	-0.001	(0.003)
% council housing	0.001	(0.002)	-0.003*	(0.001)
% aged under 30yo	-0.002	(0.002)	0.001	(0.005)
Individual characteristics				
Female	0.190***	(0.042)	0.280***	(0.037)
Age in years	-0.001	(0.002)	0.004**	(0.002)
Married	-0.007	(0.052)	-0.032	(0.042)
Disabled	0.068	(0.067)	-0.076	(0.062)
Religion Christian	<i>ref.</i>		<i>ref.</i>	
Religion Non-Christian	-0.077	(0.145)	0.215***	(0.081)
No religion	-0.066	(0.061)		
Education Level 1	<i>ref.</i>		<i>ref.</i>	
Education Level 2	0.111	(0.089)		
Education Level 3	-0.012	(0.093)	0.241	(0.147)
Education Level 4	0.140	(0.089)	0.276*	(0.148)
Education Level 5	0.307***	(0.078)	0.414***	(0.141)
Employed	0.003	(0.056)	0.026	(0.044)
Life satisfaction	-0.119***	(0.030)	-0.091***	(0.033)
Contact avoidance	-	-	-	-
Spaces of encounter				
Private space	0.109**	(0.057)	0.405***	(0.097)
All urban spaces				
Public space	-0.040	(0.055)	0.043	(0.052)
Consumption space	0.023	(0.050)	0.125*	(0.067)
Institutional space	0.013	(0.063)	0.054	(0.058)
Socialisation space	0.094*	(0.054)	0.092	(0.077)
Constant	4.050***	(0.182)	2.981***	(0.243)
δ_u^2 (% explained)		0.10 (20.5%)		0.09 (24.0%)
δ_e^2 (% explained)		0.48 (7.8%)		0.48 (13.4%)
N_{indiv}/N_{neigh}		1235/190		1476/156

Notes: Significance level * p<0.1, ** p<0.05, *** p<0.01 (2-tailed).

Supplementary Material A. Correlations between contacts in particular places

Table S1. Correlations between contacts in particular places in Leeds (Spearman's rho)

	family	street, park	local facilities (e.g. shops)	public transport	work, school, collage	hobby club, social organisati on	child's nursery, school	place of religious group meeting	café, restau- rant	bar, club
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1)	1.00									
(2)	0.04	1.00								
(3)	0.02	0.53	1.00							
(4)	0.07	0.40	0.43	1.00						
(5)	0.08	0.09	0.10	0.17	1.00					
(6)	0.04	0.21	0.23	0.24	0.19	1.00				
(7)	0.05	0.10	0.09	0.09	0.08	0.14	1.00			
(8)	0.03	0.11	0.16	0.18	0.12	0.21	0.20	1.00		
(9)	0.03	0.35	0.40	0.42	0.26	0.34	0.16	0.19	1.00	
(10)	0.03	0.27	0.29	0.36	0.30	0.29	0.05	0.08	0.54	1.00

Note: Bolded Spearman's rank correlations sig. at $p < 0.05$.

Table S2. Correlations between contacts in particular places in Warsaw (Spearman's rho)

	family	street, park	local facilities (e.g. shops)	public transport	work, school, collage	hobby club, social organisati on	child's nursery, school	place of religious group meeting	café, restau- rant	bar, club
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1)	1.00									
(2)	0.03	1.00								
(3)	-0.01	0.58	1.00							
(4)	0.01	0.60	0.66	1.00						
(5)	0.07	0.10	0.12	0.16	1.00					
(6)	0.06	0.13	0.14	0.10	0.17	1.00				
(7)	0.06	0.14	0.17	0.13	0.18	0.06	1.00			
(8)	0.05	0.12	0.16	0.16	0.07	0.22	0.10	1.00		
(9)	0.06	0.28	0.29	0.34	0.28	0.20	0.12	0.19	1.00	
(10)	0.03	0.23	0.25	0.25	0.36	0.27	0.14	0.16	0.51	1.00

Note: Bolded Spearman's rank correlations sig. at $p < 0.05$.

Supplementary Material B. The moderating role of contextual ethnic diversity on the relationship between contact in different spaces and outgroup attitudes

We tested whether neighbourhood ethnic diversity (% of non-White British or non-Polish residents) moderates the relationship between contact with ethnic/religious minorities in different type of space and outgroup attitudes. We should bear in mind, that in the surveys we asked about contacts within and outside neighbourhood space, hence the contextual effects of residential areas could be less significant, especially in case of spaces that are located outside the neighbourhood like workplace and school.

In case of affective attitudes in Leeds we found none significant interactions between the neighbourhood diversity indicator and types of contact. In case of behavioural attitudes we see that people living in more diverse neighbourhood and interacting with minorities in consumption and institutional spaces are more likely to be prejudiced.

In Warsaw patterns for both attitudes are the same. For people living in more diverse residential areas encounters in public and socialisation spaces are associated with lower levels of tolerance. There is also a significant interaction between contact in consumption space and neighbourhood diversity – people living in more diverse areas and encountering minorities in consumption spaces have more favourable emotions towards them than those living in diverse areas, but do not interacting with ethnic/religious minorities in consumption space.

Table S3. The moderating role of ethnic diversity on the relationship between contact and outgroup attitudes – summary table

Cross-level interactions	Affective attitudes		Behavioural attitudes	
	Leeds	Warsaw	Leeds	Warsaw
Private space * Ethnic diversity in neighbourhood	not sig.	not sig.	not sig.	not sig.
Public space * Ethnic diversity in neighbourhood	not sig.	–	not sig.	–
Consumption space * Ethnic diversity in neighbourhood	not sig.	+	–	+
Workplace/Study * Ethnic diversity in neighbourhood	not sig.	not sig.	–	not sig.
Socialisation space * Ethnic diversity in neighbourhood	not sig.	–	not sig.	–

Note: 'not-sig' – interaction term not significant, '–' – negative effect of contact in more diverse neighbourhoods; '+' – positive effect of contact in more diverse neighbourhoods.

Highlights

- We test the role of inter-group contact in different types of space for ethno-religious prejudice reduction
- Spaces of encounter are divided into private, public, consumption, institutional and socialisation
- We use a representative survey from 2012 with majority populations in Leeds and Warsaw
- In Leeds contact in institutional and socialisation spaces is associated with more positive feelings towards ethno-religious outgroups, while in Warsaw – contact in public and consumption spaces
- Only contact in socialisation space in Leeds, and consumption space in Warsaw is in significant and positive relationship with acceptance of minority neighbours