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Political ideology moderates the relationship between outgroup size and prejudice toward immigrants: A longitudinal, multilevel study / Russo, Silvia; Barni, Daniela; Cavazza, Nicoletta; Rocco, Michele; Vieno, Alessio. - In: PSICOLOGIA SOCIALE. - ISSN 1827-2517. - 14:1(2019), pp. 115-128. [10.1482/92930]

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Russo, S., Barni, D., Cavazza, N., Roccato, M., & Vieno, A. (2019). Political ideology moderates the relationship between outgroup size and prejudice toward immigrants: A longitudinal, multilevel study. *Psicologia sociale*, 14(1), 115-128. DOI: 10.1482/92930

Political ideology moderates the relationship between outgroup size and prejudice toward immigrants: A longitudinal, multilevel study

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Abstract

With the aim of understanding the relationship between the presence of immigrants and prejudice towards them, we tested two competing predictions drawn from the outgroup threat theory and the contact hypothesis. We also tested whether such relationship differed depending on individual political ideology. The results of a multilevel analysis conducted on longitudinal data from an Italian sample ($N = 3,871$, nested in 103 Italian counties) revealed that, in line with the group threat theory, the association between the immigrants' group size and prejudice was positive only among right-wingers. Strengths, limitations, and possible developments of this research are discussed.

Key words: Group threat theory, Contact hypothesis, Immigration, Prejudice, Multilevel analysis

Political ideology moderates the relationship between outgroup size and prejudice toward immigrants: A longitudinal, multilevel study

In a time of increasing immigration flows, understanding how citizens' attitudes towards the newcomers evolve becomes of paramount importance. In Europe, immigration flows seem to go along with a rise in anti-immigrant sentiments (Semyonov, Raijman, & Gorodzeisky, 2006). However, the relationship between them is not clear yet. The present paper aims at contributing to this understanding by analysing the link between the outgroup size and prejudice towards immigrants as a function of individual differences (i.e., political ideology).

Outgroup Size and Prejudice

Two main perspectives have been used to explain the relationship between outgroup size and anti-outgroup sentiments. The first one is the group threat theory. It posits that a large outgroup size fosters the perception of threatened group interests, resulting in more negative attitudes toward the outgroup (Blalock, 1967; Blumer, 1958). According to this perspective, when the size of an outgroup is large, hostile intergroup attitudes are likely to rise. Blalock (1967) points out two reasons why this happens. First, the larger the outgroup, the fiercer is the competition for the limited resources. Second, the larger the outgroup, the greater is the potential for collective political actions against the majority. In the group threat research, the outgroup size is thus proposed as a crucial indicator of actual intergroup competition in the economic domain and in the domain of identity politics, which boosts the perceived threat and promotes prejudice toward the outgroup as a way to protect the ingroup's interests (Quillian, 1995).

The second one is the contact hypothesis. Simply stated, the contact hypothesis holds that having frequent and positive contacts with an outgroup improves the attitudes toward it (Allport, 1954). According to this perspective, intergroup interactions have a positive impact on intergroup bias, predicting lower intergroup anxiety and lower prejudice (Pettigrew & Tropp, 2006). Thus, a large outgroup size should increase the opportunities to have contacts and gain familiarity with

outgroup members, resulting in a more positive attitude toward the outgroup (Schlueter & Wagner, 2008; Wagner, Christ, Pettigrew, Stellmacher, & Wolf, 2006). Despite its theoretical and applied relevance, contemporary contact research has been criticized for being too focused on rare positive contacts. For example, Dixon, Durrheim, and Tredoux (2005) observe that, with the aim of identifying the conditions under which contact works most effectively to reduce prejudice, researchers have focused on optimal contact strategies, discounting the idea that everyday contact between groups is far from this ideal world.

Predictions derived from these two perspectives are conflicting, with the contact hypothesis stressing the positive consequences of outgroup size, and group threat theory highlighting its negative outcomes. The empirical evidence reflects such contradiction, with studies reporting a negative, a positive, and a non-significant association between outgroup size and prejudiced attitudes (see Schlueter & Scheepers, 2010 for an extensive review). This puzzling scenario might indicate that both effects exist simultaneously—the presence of immigrants is threatening to many, but it also provides contact opportunities (cf. Pettigrew, Wagner & Christ, 2010; Schlueter & Wagner, 2008)—and it might also indicate that the relationship between outgroup size and prejudice is conditional (i.e., depending on other individual and contextual factors) rather than pervasive. We adopted a person-environment interactive approach to analyse the nature of such relationship.

Individual Differences in the Outgroup Size-Prejudice Relation

The group threat theory has been developed to explain group level influences on prejudice. Given its social/contextual focus of attention, the analysis of individual differences within this research paradigm is scant. The few empirical studies available generally indicate that threat-sensitive persons (e.g., people high in right-wing authoritarianism, social dominance orientation, and intolerants) are more likely to report prejudice towards member of different groups (e.g., racial groups, political groups, sexual orientation groups) when they live in contexts with large minority groups. For example, Van Assche et al. (2014) found that the presence of immigrants in the neighbourhood was associated with negative attitudes toward them only among authoritarian

residents. Such effect is explained by the fact that authoritarians, believing that the world is a dangerous and threatening place (Altemeyer, 1988), are especially prone to perceive the presence of immigrants as a threat to economic stability as well as to traditional ideologies, values, and norms. In this light, authoritarians living in ethnically diverse contexts are likely to perceive such diversity as a threat and consequentially develop negative attitudes towards the minorities (Sibley et al., 2013).

Within the contact hypothesis research, early theorists suggested that prejudice-prone persons would avoid contact, would be resistant to the influences of intergroup contact, and thus would not derive benefits from it (Allport, 1954; Amir, 1969). However, contemporary research showed that prejudice-prone people experience benefits from frequent and positive intergroup contacts (e.g., Dhont & Van Hiel, 2009). For example, Hodson (2008) showed that White prisoners high in social dominance orientation (i.e., characterized by endorsement of intergroup hierarchies and group-based inequality) exhibit significantly less intergroup bias when reporting frequent contact with Black inmates, when experiencing more pleasant interactions with them, and when perceiving that favourable contact conditions are institutionally supported. On this view, reduced prejudice results from decreased threat and anxiety and increased empathy, trust, and outgroup closeness promoted by the positive contacts with outgroup members (Hodson, 2011).

The Present Study

The sketched theoretical frameworks can be applied to the understanding of contemporary social tension in Europe as a consequence of immigration flows. Therefore, using the longitudinal data collected by the Osservatorio del Nord Ovest, a research institute of the University of Torino, Italy, we aimed to analyse individual differences in prejudice as a response to the mere presence of immigrants. Both the theoretical frameworks consider threat perception as a fundamental explanation for the association between outgroup size and prejudice. However, while the group threat theory anticipates that a large outgroup size increases the perception of threat, the contact hypothesis assumes that a large outgroup size decreases it due to higher likelihood of experiencing

positive and frequent contacts with the outgroup members. In this study, we decided to focus on the moderating role of political ideology, in particular of political-economic conservatism.

Conservatism is regarded as the expression of motives related to the management of uncertainty and threat, with threat management being linked to the endorsement of inequality and prejudice (Jost, Glaser, Kruglanski, & Sulloway, 2003). Self-identified conservatives indeed tend to show higher levels of intolerance and greater hostility toward immigrations, whereas self-identified liberals are typically more tolerant of ambiguity and differences in lifestyle or identity (Inbar, Pizarro, & Bloom, 2009). Not only conservatives are particularly sensitive to potentially threatening social contexts, but they might seldom look for positive contact with immigrants (although they should be those who benefit more from familiarity with immigration, e.g., Hodson, 2008; Hodson, Harry, & Mitchell, 2009).

For all these reasons, we anticipated that the presence of immigrants would have differential consequences depending on the individual's political conservatism, assessed as political self-placement on a right-left axis. More specifically, we formulated two competing hypotheses:

H1. In the light of group threat theory, right-wingers living in counties with many immigrants should experience high threat, and thus should report higher prejudice towards immigrants than right-wingers living in counties with few immigrants;

H2. In the light of contact hypothesis, right-wingers living in counties with many immigrants should have more opportunity to experience frequent and positive interaction with them, and thus they should report lower prejudice than right-wingers living in contexts with few immigrants.

To test these hypotheses, we have applied multilevel models with random effects to analyse the effect of the cross-county interaction between political self-placement at the individual level and immigrants' group size at the county level on participants' attitudes toward immigrants. In addition, we have taken into account the variability of prejudice over time; keeping under control such variability allowed us to analyse the effects of the presence of immigrants and conservatism on

prejudice, above and beyond its change over time. We also controlled for age, gender, and education at the individual level, and unemployment rate at the county level.

Data and Methods

Design

A sample of over 14-year-olds extracted from the Italian population was surveyed three times a year regarding a number of social issues from 2002 to 2008. In the following three waves, data on participants' prejudice toward immigrants were available: (a) October 2002 ($N = 4,281$, response rate = 42.3%), (b) January 2003 ($N = 3,622$, response rate = 43.0%), and (c) September 2003 ($N = 3,044$, response rate = 59.8%). Each wave's participants were representative of the Italian population according to the main sociodemographic variables (gender, age, and education). However, due to the panel attrition that inevitably characterizes longitudinal research (see Ribisl et al., 1996; Tourangeau & Ye, 2009), only 18.4% of the participants were surveyed in two waves, and 8.3% in all three waves. In a multilevel perspective, a key advantage of the random-effects approach is that it can be applied even when respondents did not participate to the same waves (see Hedeker & Gibbons, 1997). This gives the researcher the opportunity to manage successfully missing values. For this reason, the final sample (with at least two time points for each respondent) was composed of 3,871 participants, nested in 103 of the 110 Italian counties.

Measures

Dependent variable. For each wave, we assessed prejudice using the following item: «The immigrants who live in Italy help enrich culturally our country». In the first wave, the item was presented with four response categories, ranging from «I fully disagree» to «I fully agree». In the second and in the third wave, the item was presented with five response categories with the same ending labels. To make them comparable, we rescaled the three items to range between 0 and 1. The resulting items were then recoded so that high scores indicated high levels of prejudice.

Within-individual variables. Trends in prejudice were expressed in terms of changes in rate per 6-months. Time was included as a continuous variable reflecting the period of study (October 2002 = 1, January 2003 = 2, September 2003 = 3).

Between-individual variables. Three socio-demographic variables from the 2002 survey were included in the analysis: gender (1 = men, 2 = women), age, and years of formal education. We used these variables as controls. Moreover, we included in our analyses participants' political placement on the left-right axes (1 = left, 10 = right), used as moderator of the outgroup size-prejudice relation. Previous research showed that this variable is a robust predictor of participants' political conservatism (Corbetta, Cavazza, & Roccato, 2009), at least in Western countries (Barni, Vieno, & Roccato, 2016).

County level variables. In the analysis, we considered two county-level variables, referred to 2002 and gathered from the www.istat.it website: (a) the unemployment rate, as the quota of unemployed residents out of the county's population (control variable); and (b) the outgroup size, as the ratio between the number of immigrants living in each county and the county population (predictor).

Analytic Strategy

Given the multilevel nature of the present data (which varied in terms of time, individuals, and county), we ran a three-level hierarchical regression model, using the Hierarchical Linear Modelling software (HLM, Raudenbush & Bryk, 2002). The within individual connections between time and prejudice were modelled at level 1:

$$Y_{tij} = \pi_{0ij} + \pi_{1ij}(time) + e_{tij}$$

In this equation, t is the index for observation occasions, i is the index for individuals, and j is the index for county. We considered our waves as time-variable predictors. The intercept, π_{0ij} represents the expected mean prejudice for the i^{th} individual living in the j^{th} county at time 1 (October 2002). π_{1ij} accounts for the change of prejudice due to passing time for the i^{th} individual

living in the j^{th} county. Finally, e_{ij} represent the random effect for the intercept and slopes. Based on Raudenbush and Bryk (2002), we entered these predictors into our equation as centred variables.

Prejudice variations between individuals were modelled at level 2. The intercept at level 1 became the outcomes we tried to explain at level 2:

$$\pi_{0ij} = \beta_{00j} + \beta_{01j} (\text{age}) + \beta_{02j} (\text{gender}) + \beta_{03j} (\text{education}) + \beta_{04j} (\text{political placement}) + r_{0ij}$$

In this equation, β_{04j} represent the association between the individual level of participants' political placement and their prejudice after controlling for age, gender, and education. The random effect for the intercept is represented by r_{0ij} .

Finally, at level 3 the remaining variability between counties on individual's mean outcome was modelled as a function of the outgroup size and unemployment rate:

$$\beta_{00j} = \gamma_{000} + \gamma_{001} (\text{outgroup size}) + \gamma_{002} (\text{unemployment rate}) + u_{00j}$$

In these equations the u 's represent the random coefficients. All other parameters were fixed in the model, except that of political placement.

$$\beta_{04j} = \gamma_{040} + \gamma_{041} (\text{outgroup size}) + \gamma_{042} (\text{unemployment rate}) + u_{04j}$$

The model was run in three steps. The first step (Model 1) included the within-individuals (between time) time, in the second step (Model 2) we added our variables at the individual level (gender, age, education, and political placement). Finally, in the third step (Model 3), we entered the predictors at the county level (outgroup size and unemployment rate), in order to predict intercepts β_{00j} and β_{04j} . In particular, γ_{041} represents the association between the cross-level interaction between political placement and outgroup size (at the county level) on the one hand and prejudice on the other.

Results

Table 1 reports the descriptive statistics for the variables used in the study.

Before running the multivariate models described above, an unconditional model was run. This model aimed to examine the variance of prejudice, partitioning it into within-individuals, between-individuals, and between-counties variances. In our sample, 42.5% of the variation in

prejudice lied at the within-individual level, 56.2% was between individuals within counties, and 0.3% was between counties. The estimated county-level variance of prejudice was statistically significant, $\chi^2(102) = 178.00, p < .001$, although small. However, since we found a significant random variance for the political placement effect (see Model 2, $\chi^2(101) = 139.977, p < .01$), we felt justified in testing formally the core hypothesis of our study, focussed on the potential moderator role played by political placement in the relation between outgroup size and prejudice.

Table 2 shows that time was negatively related to the dependent variable, but with a small effect (explaining 7.20% of the within-individual variation of prejudice toward immigrants). This indicates that, in the time considered here, the prejudice reported by our participants slightly decreased. Keeping under control this decreasing trend, we analysed individual and contextual predictors of prejudice towards immigrants. Table 2's central columns present the results of our Model 2, in which we added the between-individual independent variables: gender, age, education, and political placement (at the individual level). Being a woman and being an older person were negatively associated with prejudice. Moreover, political placement showed a positive association with prejudice and this effect resulted variant across counties. In order to explain this variability, in Model 3 we introduced the county level variables. The cross-level interaction between political placement (at the individual level) and outgroup size (at the county level) showed a significant association with prejudice (γ_{041}). Figure 1 shows that the association between the outgroup size and prejudice was positive among right-wingers (25th percentile in political placement) and negative among left-wingers (75th percentile in political placement). In other words, in line with the group threat theory and H1, our findings showed that the mere presence of immigrants was positively associated to prejudice among political conservatives, but not among liberals. As indicated by the significant interaction term, these differential associations between outgroup size and prejudice depending on the level of political self-placement were significantly different from each other.

Discussion

In this study, we tested two competing views on the association between the presence of immigrants and the prejudice towards them, and examined the role played by individual's political ideology in defining the dynamics of such relationship. Our findings clearly indicated that the mere presence of immigrants is generally not related to anti-immigrant prejudice. This lack of association is in line with previous studies reporting a non-significant link between the outgroup size and prejudice toward it (e.g., Strabac & Listhaug, 2008). More interestingly, we found that this association was conditioned by individual political ideology: Living in a county with a large presence of immigrants leads right-wingers (vs. left-wingers) to express higher levels of prejudice toward them. We interpreted this conditional effect relying upon the group threat framework. If a large presence of immigrants stimulates the perception of threat to the ingroup's interests and the expression of prejudice, then such effect should be pronounced among political conservatives, who are less tolerant and more concerned with threat management than liberals are (Jost et al., 2007).

On the other hand, our findings do not provide direct support to the contact hypothesis holding that the outgroup size might improve intergroup attitudes because of the increased opportunity to experience frequent and positive interactions. Additionally, the results do not support the idea that the presence of immigrants is beneficial especially to those who most need it (i.e., prejudice-prone people), but rather to those who less need it. This can be read in light of the recent critiques to this framework. If the main criticism revolves around the focus on optimal contact conditions that are rarely encounter in the everyday social contexts (Dixon et al., 2005), the research on individual differences within the contact hypothesis framework delivered an even more paradoxical message: Successful contact among prejudice-prone persons is unlikely yet notably effective. Research has indeed shown that prejudice-prone individuals typically avoid contact with members of the outgroups. For example, authoritarians, social dominators, and racist people report having less frequent and more negative contact with immigrants than their counterparts (Dhont & Van Hiel, 2009). In other words, the research on individual differences indicates that prejudice-prone persons might profit from social encounters that they will seldom experience. This might well explain why

we did not find a positive association as in previous research: Our focus was not limited to the rare positive intergroup contacts that conservatives experience in their everyday life. On the contrary, it was on the mere presence of immigrants.

Overall, this study shed some light on the link between immigration and prejudice, showing that the mere presence of immigrants does not trigger a pervasive prejudiced reaction: It is rather conditional depending on individual political ideology. To the best of our knowledge, this is the first study that addressed the moderating role of political ideology to explain the link between the actual presence of immigrants and prejudice. However, it is worth noting that Italy had an atypical immigration history: Italy experienced a relatively recent transformation from a sending country into a receiving one and a more rapid growth in the immigration flows compared to other European countries. We know that changes in immigration flows can bias the subjective perception of the immigration presence in a territory (e.g., Strabac, 2011), and make even more salient the economic and cultural threat posed by immigrants (Pichler, 2010). For this reason, our findings might not be solely attributable to the outgroup size, but also to its rapid change over time. However, the most significant change in this phenomenon occurred after the collection of the present data (i.e. the number of foreigners living in Italy has quadrupled since 2002).

We also need to acknowledge some limitations of this study. First, our secondary data did not allow us to test whether the perception of threat explained the effect observed as suggested by the group threat theory. Given that threat perception is a key factor in both the group threat theory and the contact hypothesis, this is certainly one limitation of the study. Second, we also need to mention that the data we used were collected 15 years ago. Even though our aim was to explain the associations between variables (not their description) and we have no reason to believe that the strength and the direction of such association would change over the years, a replication of the current study with recently collected data would be certainly interesting. Third, the nature of our data allowed us to analyse the presence of immigrants on a county level. It could be argued that large contextual levels of analysis might not capture the true variation of the presence of immigrants

and that smaller contexts would work better as proxies for everyday social contexts (Schlueter & Scheepers, 2010). It is also important to note that most of the research on the relationship between outgroup size and prejudice focused on even broader geographical levels such as regional or national differences (e.g., Schlueter & Wagner, 2008; Schneider, 2008) and that Italian counties proved to be effective contexts to be used in multilevel analyses (e.g., Roccato, Vieno, & Russo, 2013; Russo, Vieno, & Roccato, 2013). However, new multilevel research performed using participants' neighbourhood as contextual level could be fruitful. Finally, in the dataset we used information about the participants' migration background was not available. A replication of this research performed by comparing native and immigrant participants could be interesting.

Notwithstanding these limitations, the current study had the advantages of analysing data collected from a sample extracted from the Italian general population and of using a longitudinal approach to study anti-immigrants prejudice. More importantly, by adopting a multilevel approach, we could fruitfully apply a person x environment view. Such view is of high importance given the psychosocial nature of anti-immigrant attitudes.

References

- Allport, G. (1954). *The nature of prejudice*. Reading, MA: Addison-Wesley.
- Altemeyer, B. (1988). *Enemies of freedom: Understanding right-wing authoritarianism*. San Francisco, CA: Jossey-Bass.
- Amir, Y. (1969). Contact hypothesis in ethnic relations. *Psychological Bulletin*, *71*, 319-324.
doi:10.1037/h0027352
- Barni, D., Vieno, A., & Roccato, M. (2016). Living in a non-communist versus in a post-communist European country moderates the relation between conservative values and political orientation: A multilevel study. *European Journal of Personality*, *30*, 92-104.
doi:10.1002/per.2043
- Blalock, H. M. (1967). *Toward a theory of minority-group relations*. New York, NY: Capricorn Books.
- Blumer, H. (1958). Race prejudice as a sense of group position. *Pacific Sociological Review*, *1*(1), 3-7.
- Corbetta, P., Cavazza, N., & Roccato, M. (2009). Between ideology and social representations: Four theses plus (a new) one on the relevance and the meaning of the political left and right. *European Journal of Political Research*, *48*, 622-641. doi:10.1111/j.1475-6765.2009.00845.x
- Dhont, K., & Van Hiel, A. (2009). We must not be enemies: Interracial contact and the reduction of prejudice among authoritarians. *Personality and Individual Differences*, *46*, 172-177.
doi:10.1016/j.paid.2008.09.022
- Dixon, J., Durrheim, K., & Tredoux, C. (2005). Beyond the optimal contact strategy: a reality check for the contact hypothesis. *American Psychologist*, *60*, 697-711. doi:10.1037/0003-066X.60.7.697
- Hedeker, D., & Gibbons, R. D. (1997). Application of random-effects pattern-mixture models for missing data in longitudinal studies. *Psychological Methods*, *2*, 64-78. doi:10.1037/1082-989X.2.1.64

- Hodson, G. (2008). Interracial prison contact: The pros for (socially dominant) cons. *British Journal of Social Psychology, 47*, 325-351. doi:10.1348/014466607X231109
- Hodson, G. (2011). Do ideologically intolerant people benefit from intergroup contact? *Current Directions in Psychological Science, 20*, 154-159. doi:10.1177/0963721411409025
- Hodson, G., Harry, H., & Mitchell, A. (2009). Independent benefits of contact and friendship on attitudes toward homosexuals among authoritarians and highly identified heterosexuals. *European Journal of Social Psychology, 39*, 509-525. doi:10.1002/ejsp.558
- Inbar, Y., Pizarro, D. A., & Bloom, P. (2009). Conservatives are more easily disgusted than liberals. *Cognition and Emotion, 23*, 714-725. doi:10.1080/02699930802110007
- Jost, J. T., Glaser, J., Kruglanski, A. W., & Sulloway, F. J. (2003). Political conservatism as motivated social cognition. *Psychological Bulletin, 129*, 339-375. doi:10.1037/0033-2909.129.3.339
- Jost, J. T., Napier, J. L., Thorisdottir, H., Gosling, S. D., Palfai, T. P., & Ostafin, B. (2007). Are needs to manage uncertainty and threat associated with political conservatism or ideological extremity?. *Personality and Social Psychology Bulletin, 33*, 989-1007. doi:10.1177/0146167207301028
- Pettigrew, T. F., & Troop, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology, 90*, 751-783. doi:10.1037/0022-3514.90.5.751
- Pettigrew, T. F., Wagner, U., & Christ, O. (2010). Population ratios and prejudice: Modelling both contact and threat effects. *Journal of Ethnic and Migration Studies, 36*, 635-650. doi:10.1080/13691830903516034
- Pichler, F. (2010). Foundations of anti-immigrant sentiment: The variable nature of perceived group threat across changing European societies, 2002-2006. *International Journal of Comparative Sociology, 51*, 445-469. doi:10.1177/0020715210379456

- Quillian, L. (1995). Prejudice as a response to perceived group threat: Population composition and anti-immigrant and racial prejudice in Europe. *American Sociological Review*, *60*, 586-611. doi:10.2307/2096296
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods* (Vol. 1). Newbury Park, CA: Sage Publications.
- Ribisl, K. M., Walton, M. A., Mowbray, C. T., Luke, D. A., Davidson, W. S., & Bootsmiller, B. J. (1996). Minimizing participant attrition in panel studies through the use of effective retention and tracking strategies: Review and recommendations. *Evaluation and Program Planning*, *19*, 1-25. doi:10.1016/0149-7189(95)00037-2
- Roccatò, M., Vieno, A., & Russo, S. (2013). Criminal victimisation fosters conservatism among people living in areas with high unemployment rates: A multilevel longitudinal study. *European Journal of Social Psychology*, *43*, 585-592. doi:10.1002/ejsp.1968
- Russo, S., Roccatò, M., & Vieno, A. (2013). Criminal victimization and crime risk perception: A multilevel longitudinal study. *Social Indicators Research*, *112*, 535-548. doi:10.1007/s11205-012-0050-8
- Schlueter, E., & Scheepers, P. (2010). The relationship between outgroup size and anti-outgroup attitudes: A theoretical synthesis and empirical test of group threat-and intergroup contact theory. *Social Science Research*, *39*, 285-295. doi:10.1016/j.ssresearch.2009.07.006
- Schlueter, E., & Wagner, U. (2008). Regional differences matter: Examining the dual influence of the regional size of the immigrant population on derogation of immigrants in Europe. *International Journal of Comparative Sociology*, *49*, 153-173. doi:10.1177/0020815207088910
- Schneider, S. L. (2008). Anti-immigrant attitudes in Europe: Outgroup size and perceived ethnic threat. *European Sociological Review*, *24*, 53-67. doi:10.1093/esr/jcm034

- Semyonov, M., Rajzman, R., & Gorodzeisky, A. (2006). The rise of anti-foreigner sentiment in European societies, 1988–2000. *American Sociological Review*, *71*, 426-449.
doi:10.1177/000312240607100304
- Sibley, C. G., Duckitt, J., Bergh, R., Osborne, D., Perry, R., Asbrock, F., Robertson, A., Armstrong, G., Wilson, M. S., & Barlow, F. K. (2013). A dual process model of attitudes towards immigration: Person× residential area effects in a national sample. *Political Psychology*, *34*, 553-572. doi:10.1111/pops.12009
- Strabac, Z. (2011). It is the eyes and not the size that matter: The real and the perceived size of immigrant populations and anti-immigrant prejudice in Western Europe. *European Societies*, *13*, 559-582. doi:10.1080/14616696.2010.550631
- Strabac, Z., & Listhaug, O. (2008). Anti-muslim prejudice in Europe: A multilevel analysis of survey data from 30 countries. *Social Science Research*, *37*, 268-286.
doi:10.1016/j.ssresearch.2007.02.004
- Tourangeau, R., & Ye, C. (2009). The framing of the survey request and panel attrition. *Public Opinion Quarterly*, *73*, 338-348. doi:10.1093/poq/nfp021
- Van Assche, J., Roets, A., Dhont, K., & Van Hiel, A. (2014). Diversity and out-group attitudes in the Netherlands: The role of authoritarianism and social threat in the neighbourhood. *Journal of Ethnic and Migration Studies*, *40*, 1414-1430. doi:10.1080/1369183X.2013.876895
- Wagner, U., Christ, O., Pettigrew, T.F., Stellmacher, J., & Wolf, C. (2006). Prejudice and minority proportion: Contact instead of threat effects. *Social Psychology Quarterly*, *69*, 370-380.
doi:10.1177/019027250606900406

Figure 1. Cross level interaction between Outgroup size and Political Placement

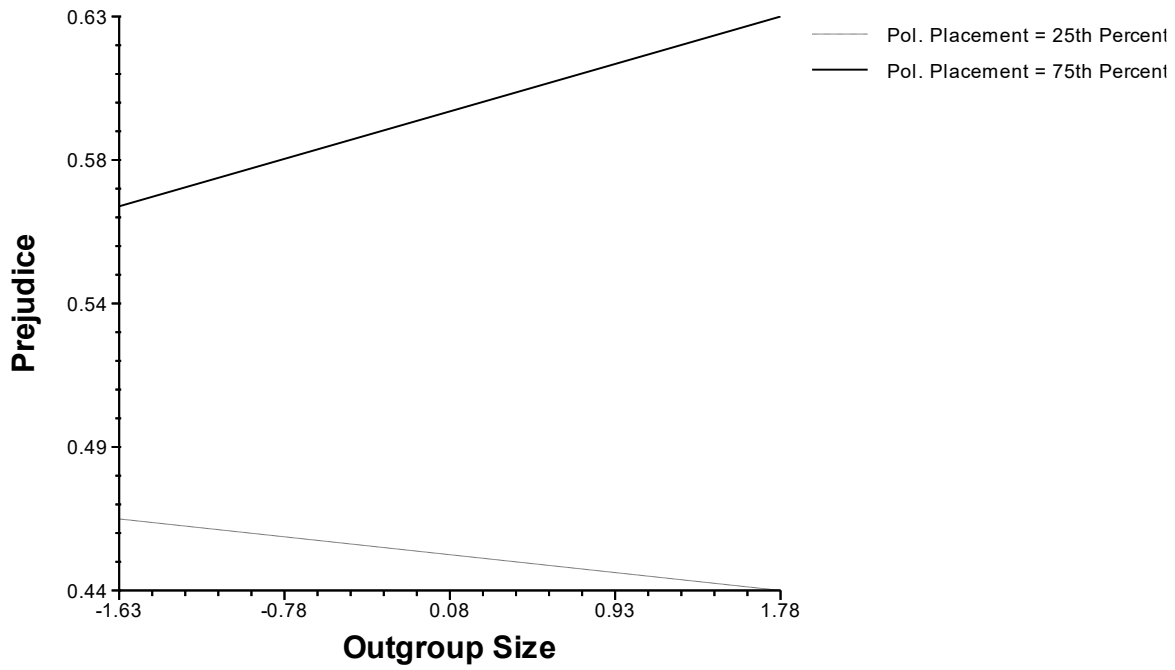


Table 1. Within Individual, Between Individual, and County Level Variables: Descriptive Statistics

Variables	<i>Mean</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
<i>Within Individual level</i>				
<i>October 2002 (N = 4,281)</i>				
Prejudice	.516	.303	0	1
<i>January 2003 (N = 3,622)</i>				
Prejudice	.525	.295	0	1
<i>September 2003 (N = 3,044)</i>				
Prejudice	.524	.289	0	1
<i>Between Individual level (N = 3871)</i>				
Age	49.17	16.93	15	94
Gender (2 = woman)	1.54	0.50	1	2
Years of formal education	11.28	3.87	0	18
Political Placement	5.12	2.61	1	10
<i>County level (N = 103)</i>				
Unemployment rate	8.00	5.06	2.27	21.45
Outgroup size	2.24	1.26	0.34	4.77
Population size	556515.24	610186.84	90030	3723649

Table 2. Correlates of Prejudice

Variables	Model 1				Model 2				Model 3			
	Coeff.	SE	t ratio	p	Coeff.	SE	t ratio	p	Coeff.	SE	t ratio	p
Intercept	0.53	0.01	73.58	.001	0.53	0.01	74.79	.001	0.52	0.01	77.79	.001
<i>Level 1 - within individual (N = 6,321)</i>												
Time	-0.021	0.003	-5.615	.001	-0.021	0.003	-5.612	.001	-0.021	0.003	-5.328	.001
<i>Level 2 – Between individuals (N = 3,871)</i>												
Age					.001	0.001	1.830	.067	.001	0.001	1.840	.068
Gender (2 = female)					-0.020	0.002	-2.189	.029	-0.020	0.002	-2.353	.019
Education					-0.005	0.001	-5.745	.001	-0.005	0.001	-4.722	.001
Political Placement					0.040	0.001	24.418	.001	0.036	0.001	19.432	.001
<i>Level 3 Between county for π_{0ij} (N = 103)</i>												
Outgroup size									0.006	0.006	0.931	.354
Unemployment rate									-0.003	0.001	-2.343	.021
<i>Level 3 Between county for β_{04j} (N = 103)</i>												
Outgroup size									0.001	0.001	2.464	.015
Unemployment rate									0.005	0.003	-0.154	.878

<i>Variance components for π_{0ij}</i>	Var.	SD	χ^2	<i>p</i>	Var.	SD	χ^2	<i>p</i>	Var.	SD	χ^2	<i>p</i>
Within individual	0.035	0.188			0.035	0.187			0.035	0.187		
Between individuals	0.052	0.229	6893.757	.001	0.409	0.202	5499.429	.001	0.409	0.202	5499.694	.001
Between county	0.001	0.033	177.451	.001	0.001	0.037	177.451	.001	0.001	0.031	300.254	.001
<i>Variance components for β_{04j}</i>												
Between county					0.001	0.100	139.977	.005	0.000	0.100	127.436	.024

Note. In the table we provided estimates with robust standard errors. The rough estimates, available upon request, were substantially analogous to those we presented.