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**Diversity and Out-Group Attitudes in the Netherlands:  
The Role of Authoritarianism and Social Threat in the Neighbourhood**

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**Running head: Diversity and Out-Group Attitudes**

## **Diversity and Out-Group Attitudes in the Netherlands:**

### **The Role of Authoritarianism and Social Threat in the Neighbourhood**

#### **Abstract**

Previous studies have obtained divergent findings for the association between ethnic diversity and majority members' attitudes towards immigrants, suggesting that this relationship is moderated by individual or contextual difference variables. In a community sample of Dutch citizens (N = 399), we investigated the role of two potential moderators: right-wing authoritarianism and social threat in the local neighbourhood. Moreover, we assessed diversity and social threat in the neighbourhood with both subjective and objective measures. The results indicated that diversity was negatively related to positive attitudes towards immigrants among high authoritarians and among people experiencing their immediate environment as threatening. Conversely, diversity was positively related to out-group attitudes among low authoritarian individuals and among people residing in more secure neighbourhoods. The theoretical and practical implications of these person-environment and environment-environment interactions are discussed.

Key words: diversity, authoritarianism, social threat in the neighbourhood, out-group attitudes

Word count: 6848

## **Diversity and Out-Group Attitudes in the Netherlands: The Role of Authoritarianism and Social Threat in the Neighbourhood**

Over the past decades, there has been an increase in immigration and a growing representation of varied ethnic groups in Western societies. Not surprisingly, the host community's perception towards this rise in ethnic diversity has become a focal topic of research in social sciences (see, e.g., Coenders 2001; Fossett and Kiecolt 1989; Putnam 2007). However, previous research investigating the relationship between ethnic-cultural diversity and attitudes towards ethnic minorities has yielded ambiguous results (see, Wagner et al. 2006).

Some studies have shown that higher proportions of ethnic minorities in a community are associated with more negative feelings and higher levels of prejudice towards minorities (e.g., Cernat 2010; Quillian 1995). In particular, majority members living in neighbourhoods with high ethnic diversity have been found to show increased levels of prejudice compared to majority members residing in areas with less immigrants (Coenders 2001; Fossett and Kiecolt 1989; Scheepers, Gijsberts, and Coenders 2002). High (perceived) diversity may heighten perceived out-group threat in those communities, which, in turn, may result in less positive attitudes towards ethnic minorities (Semyonov et al. 2004).

By contrast, several studies have found no significant relationship (Evans and Need 2002; Hjerm 2007; Schlueter and Scheepers 2010), while others have found a positive association (e.g., Wagner et al. 2003, 2006) between the relative size of the minority population and positive out-group attitudes. For this positive relation, Wagner and colleagues have argued that diverse neighbourhoods may provide more opportunities for positive intergroup contact, which can decrease citizens' negative attitudes.

Together, these divergent findings suggest that out-group size in itself does not determine animosity towards the out-group. Third variables likely moderate the diversity-attitude relationship and thus determine whether diversity is associated with either less or more positive attitudes towards immigrants and ethnic minorities. In the present research, we explore the role of two potential moderators. First, we consider the moderating role of social-ideological attitudes, i.e., right-wing authoritarianism, and, second, we investigate the moderating role of social threat in the neighbourhood, measured both as individuals' perception of their immediate environment as threatening and by objective indicators of threat in the local neighbourhood.

### **Authoritarianism as a Possible Moderator**

One approach, drawing on individual-difference theories, holds that attitudes towards ethnic minorities are (partly) determined by individual differences in authoritarianism. The seminal work in this domain was advanced in the 1950s with the introduction of 'The Authoritarian Personality' (Adorno et al. 1950). Although originally proposed as a fixed personality trait, recent accounts usually describe authoritarianism as a social-ideological attitude that might show some changeability, although it is partially driven by core personality traits (e.g., low Openness, Duckitt 2001; Cohrs, Kämpfe-Hargrave, and Riemann 2012; Sibley and Duckitt 2008; Van Hiel, Cornelis, and Roets 2007).

This particular social-ideological attitude has most frequently been operationalized in terms of right-wing authoritarianism (RWA; Altemeyer 1981), which is defined as the covariation of authoritarian aggression, submission and conventionalism (Altemeyer 1988). According to Duckitt (2001; see also, Van Hiel, Cornelis, and Roets 2007), people high in authoritarianism generally perceive the world as a dangerous place. Therefore, they want to maintain social and collective security, order and cohesion, and they tend to perceive the

presence of ethnic minorities as a threat to traditional norms and values (see also, Dhont and Van Hiel 2011; Kauff et al. 2013). Experimental studies by Cohrs and Ibler (2009) and Cohrs and Asbrock (2009) showed that RWA is most strongly associated with prejudice when the immigrant group itself is presented as a threat to societal norms. In line with these findings, Cohrs and Stelzl (2010) recently presented a meta-analysis indicating that in countries where immigrants are perceived as a threat to the societal structure (i.e., responsible for increased crime rates and not contributing to the economic health of the country) authoritarianism is a particularly strong predictor of anti-immigrant attitudes.

As such, people high in authoritarianism - typically holding dangerous world views - who live in an ethnically diverse or multicultural environment are likely to see diversity as a threat to society and consequentially hold rather negative attitudes towards ethnic minorities (cf., Sibley et al. in press). Conversely, people low in authoritarianism - who generally believe that the social world is relatively safe and secure - might perceive ethnic diversity as an enrichment to society. As a result, they might hold rather positive attitudes towards immigrants. In this regard, Kauff et al. (2013) have shown that authoritarianism moderated the relationship between expressions of multiculturalism and attitudes towards ethnic minorities. They found that, compared to low authoritarians, high authoritarians perceived a multicultural ideology as a threat to cultural traditions, which led to an increase in negative out-group attitudes. Therefore, we predict that diversity will be associated with less positive attitudes towards immigrants among high authoritarians, compared to people low in authoritarianism.

### **Social Threat in the Neighbourhood as a Possible Moderator**

Another approach focusses on the influence of the social environment. Indeed, besides individual differences in social-ideological attitudes, a variety of social-environmental and

situational factors may lead people to experience greater threat (e.g., Branton and Jones 2005; Dustmann and Preston 2007; Stephan and Renfro 2002), which in turn may propagate prejudice towards out-groups (e.g., Oliver and Mendelberg 2000).

Relative deprivation theory (Davis 1959; Smith et al. 2012) assumes that people living in dangerous and impoverished areas as opposed to safe and affluent areas, perceive realistic threat in terms of their safety and welfare, which leads to more intergroup hostility (LeVine and Campbell 1972). This specific threat in the neighbourhood is assumed to be reality-based, rather than reflecting a general dangerous worldview belief, which according to Duckitt (2001) lies at the basis of authoritarianism. Whereas previous studies (e.g., Sibley et al. in press) focused on the interaction between diversity and a general belief that the social world is dangerous in the prediction of out-group attitudes, we examine the moderating influence of one's immediate living environment. According to Bobo (1988), this realistic threat is in fact the most direct determinant of unfavourable attitudes towards ethnic minorities. Moreover, an experimental study by Vorauer and Sasaki (2011) confirmed that under unsafe, threatening conditions, high salience of multiculturalism is associated with increased hostile intergroup behaviour. Similarly, Hjern (2009) found that anti-minority attitudes are strongest in poor municipalities with a large proportion of immigrants.

These findings indicate that (the perception of) threatening factors in the environment can affect the influence of diversity on intergroup behaviour and prejudice. As such, we expect that diversity will be associated with less positive attitudes towards immigrants in high-threat areas, compared to low-threat areas.

## **The Present Study**

In the present study, we aim to investigate the interactions between diversity and authoritarianism, and between diversity and social threat in the neighbourhood in the

prediction of positive out-group attitudes. In previous studies, the interplay between diversity, ideology, social-environmental factors and racial attitudes has been studied in either a lab-context (e.g., Cohrs and Asbrock 2009), or through respondents' subjective assessments of the social context (e.g., Feldman and Stenner 1997). Both approaches, however, have their drawbacks; laboratory experiments tend to be low in ecological validity, whereas subjective assessments may be subject to biased responses (see Sibley et al., in press).

Therefore, in the present research, we operationalize the environmental characteristics (i.e., both diversity and social threat in the neighbourhood) through respondents' subjective assessment as well as through available objective indicators of each respondent's particular community of residence. Taking into consideration the real-life variation in ethnic diversity and social threat between different neighbourhoods, we test the moderating effects of authoritarianism and social threat in the neighbourhood in an ecologically valid setting, and try to cross-validate the findings with both subjective and objective measures.

We hypothesise that diversity will be associated with less positive attitudes towards immigrants in high authoritarian individuals, but not in people low in authoritarianism. An analogous interaction is expected between diversity and social threat in the neighbourhood, indicating that ethnic diversity would be related to less positive attitudes towards immigrants under high levels of social threat in the neighbourhood, but not when social threat in the neighbourhood is low. Moreover, we hypothesise that these interactions will emerge with subjective as well as objective indicators of diversity and social threat in the neighbourhood.

## **Method**

### **Participants and Procedure**

The data for the present study were collected online in collaboration with an independent survey company as part of a larger multi-wave panel study. A community sample



of 399 Caucasian, Dutch respondents from 365 different neighbourhoods completed an internet survey. Five hundred and seventy-nine people were originally contacted (all Caucasian, Dutch nationals), which renders a response rate of 69%. All participants completed all relevant measures of the questionnaire, yielding no missing data. At least one person from every zip-code region<sup>1</sup> in the Netherlands was recruited, providing us with a heterogeneous sample of adults from all regions in the Netherlands. The mean age of the sample was 46 years ( $SD = 14.64$ ) and 47% were men. Thirty-one per cent of the participants had completed primary school, 42% had completed high school, and 27% had a college or university degree. Annual gross household income showed a fairly normal distribution, with 7% earning less than €11000, 11% between €11000 and €23000, 29% between €23000 and €34000, 19% between €34000 and €56000, and 14% earned more than €56000. Twenty per cent of the respondents chose not to disclose this information.

### **Self-report Measures**

#### Perceived Diversity.

We assessed two items tapping into subjectively perceived diversity in one's direct environment (see also, Semyonov et al. 2004). These items read 'In the municipality/region where I live, there are a lot of people from immigrant origin' and 'Compared to the number of native Dutch citizens, there are few immigrants living in my municipality/region (reverse scored)'. Respondents answered five-point Likert scales ranging from one (Totally disagree) to five (Totally agree). Cronbach's alpha of this scale was .82, with  $M = 2.78$  ( $SD = 1.18$ ).

#### Perceived Social Threat in the Neighbourhood.

We administered six indicators of perceived threat in one's immediate living environment, presented as follows: 'Below, a number of societal problems are listed. Please indicate for each of the problems to what extent they occur in the municipality/region where

you live: street crime; vandalism; poverty; community demise and degradation; drug abuse; unemployment'. Respondents answered five-point Likert scales ranging from one (Not a problem at all) to five (Definitely a problem). An exploratory factor analysis with the principal-axis extraction method on these six indicators of social threat in the neighbourhood showed that, based on the eigenvalues and scree plot, all items loaded on a single factor. Cronbach's alpha was .87, with  $M = 2.76$  ( $SD = 0.82$ ).

#### Right-Wing Authoritarianism.

Four items from the RWA-scale (Altemeyer 1981; see also, Onraet et al. 2013) were administered on seven-point Likert scales anchored by one (Totally Disagree) and seven (Totally Agree). A sample item is 'Obedience and respect for authority are the most important virtues children should learn'. Cronbach's alpha was .87, with  $M = 5.08$  ( $SD = 1.33$ ).

#### Attitudes Towards Immigrants.

We assessed a modified version of the General Evaluation Scale (Wright et al. 1997; see also, Dhont, Roets, and Van Hiel 2011) asking participants to describe their overall feelings about immigrants on four seven-point differential scales: cold-warm, positive-negative, hostile-friendly, contemptuous-respectful. The items were coded so that higher scores indicated more positive attitudes, resulting in a reliable index ( $\alpha = .85$ ), with  $M = 4.40$  ( $SD = 1.12$ ).

### **Objective Measures**

#### Objective Diversity.

We assessed the percentage of non-Western minorities within a specific neighbourhood (i.e., zip-code) as an objective indicator of diversity. We used available data from the Dutch CBS (Central Bureau for Statistics; the Netherlands 2010) indicating the

number of individuals per zip-code from non-Western origin<sup>2</sup>, and calculated the percentage as a function of the total number of registered inhabitants per zip-code to get a measure of relative objective diversity (M = 8.61%, SD = 9.74).

### Objective Social Threat in the Neighbourhood.

Objective indicators of social threat in the neighbourhood were retrieved from data provided by the Dutch Ministry of Internal Affairs, i.e., '*Leefbaarometer*' [Livability barometer] (Leidelmeijer et al. 2008). This website ([www.leefbaarometer.nl](http://www.leefbaarometer.nl)) provides biennial data for 49 indicators on six dimensions that reflect Quality of Life. We used the data from 2010 for the dimension 'Security', representing an objective indication of the safety in Dutch neighbourhoods and districts. The various indicators of the security-dimension are ruination, disruption of public policy, violent felonies, car thefts and nuisance. Note that these tangible indicators are similar to those included in our perceived social threat in the neighbourhood measure. Every zip-code is graded with a number between -50 and 50, with zero being the national average. Scores were reversed accordingly to obtain an objective indication of regional threat (instead of regional security). The mean of the scale was -5.84 (SD = 23.22).

Ninety-one per cent of the respondents in our sample had a unique zip-code (N = 365). Therefore, objective diversity and objective social threat in the neighbourhood, measured at the zip-code level, could be considered as variables at the individual level. Moreover, the data do not represent a nested structure and therefore do not warrant multi-level analyses.

## Results

### Preliminary Analyses

Independent ANOVA-analyses showed no significant effects of gender, age, education, or income on attitudes towards immigrants, all  $F_s < 2.94$ , all  $p_s > .09$ .

Consequently, we did not include those variables in our main analyses. In Table 1, the correlations between all study variables are displayed. Subjective and objective diversity were highly positively interrelated (see also, Semyonov, Raijman, and Gorodzeisky 2008), and perceived and objective social threat in the neighbourhood were moderately positively interrelated. Also, moderate to high, positive correlations were found between both indicators of diversity and social threat in the neighbourhood, respectively. Finally, authoritarianism and positive racial attitudes were negatively interrelated, but did not correlate with the measures of diversity and social threat in the neighbourhood. [Table 1 here]

## **Main Analyses**

### **Interaction between Diversity and Authoritarianism.**

To test whether the relationship between diversity and attitudes towards immigrants is moderated by authoritarianism, we conducted two hierarchical linear regression analyses: one considering perceived diversity and one considering objective diversity. In the first regression analysis, the centred scores (Aiken and West, 1991) of perceived diversity and authoritarianism were included in step one, and their interaction term was entered in step two. Perceived diversity did not yield a significant main effect on positive out-group attitudes ( $\beta = -.08$ ,  $p = .13$  in step one, and  $\beta = -.06$ ,  $p = .25$  in step two). A significant main effect of authoritarianism was obtained ( $\beta = -.16$ ,  $p = .001$ , in both step one and step two). Most importantly, a significant interaction effect (see Figure 1, Panel A) between perceived diversity and authoritarianism emerged ( $\beta = -.13$ ,  $p < .01$ ). Simple slope analyses showed that perceived diversity was negatively related to attitudes towards immigrants among high authoritarians ( $\beta = -.19$ ,  $p < .01$ ), whereas this relationship was slightly positive but non-significant among low authoritarians ( $\beta = .07$ ,  $p = .32$ ).

Next, we conducted a similar hierarchical regression analysis with objective diversity instead of perceived diversity. Objective diversity was not associated with out-group attitudes ( $\beta = -.01$ ,  $p = .91$  and  $\beta = .00$ ,  $p = .40$ , for step one and two respectively), whereas a significant main effect of authoritarianism was obtained ( $\beta = -.16$ ,  $p = .001$ , in both step one and two). Similar to the results of the analyses with perceived diversity, a significant interaction effect between objective diversity and authoritarianism emerged ( $\beta = -.16$ ,  $p < .01$ ; see Figure 1, Panel B). Simple slope analyses revealed that objective diversity was significantly negatively related to positive ethnic out-group attitudes for individuals high in authoritarianism ( $\beta = -.13$ ,  $p < .05$ ), while for low authoritarians, this association was significantly positive ( $\beta = .21$ ,  $p = .01$ ). [Figure 1 here]

#### Interaction between Diversity and Social Threat in the Neighbourhood.

To test whether diversity relates differently to attitudes towards immigrants for people living in a low-threat vs. high-threat environment, we conducted four hierarchical linear regression analyses: one considering the perceived indicators of diversity and social threat in the neighbourhood, one considering the objective indicators of both context variables and two additional cross-method combinations (perceived diversity  $\times$  objective threat and objective diversity  $\times$  perceived threat). All independent variables were first centred and the same analytic procedure for moderated regression analyses was used as in the previous analyses.

Perceived diversity and perceived social threat in the neighbourhood had no main effects on out-group attitudes ( $\beta = -.06$ ,  $p = .25$  in step one and step two for perceived diversity;  $\beta = -.04$ ,  $p = .43$  in step one, and  $\beta = -.02$ ,  $p = .67$  in step two for perceived social threat in the neighbourhood). A significant interaction effect between perceived diversity and perceived social threat in the neighbourhood was obtained ( $\beta = -.10$ ,  $p < .05$ ), which is depicted in Figure 2, Panel A. Simple slope analyses indicated that subjective diversity was

negatively associated with positive out-group attitudes under high levels of perceived social threat in the neighbourhood ( $\beta = -.16, p < .05$ ), while perceived diversity was not significantly related to ethnic out-group attitudes under low levels of perceived social threat in the neighbourhood ( $\beta = .04, p = .61$ ).

A similar hierarchical regression analysis with objective indicators of our contextual factors was conducted. Objective diversity did not yield a significant main effect on ethnic out-group attitudes ( $\beta = .00, p = .96$  for step one, and  $\beta = .11, p = .16$  for step two), and neither did objective social threat in the neighbourhood ( $\beta = -.01, p = .84$  for step one and  $\beta = -.04, p = .50$  for step two). Analogous to the results of the analyses with the perceived indicators, we obtained a significant interaction effect between objective diversity and objective social threat in the neighbourhood ( $\beta = -.14, p < .05$ ; see Figure 2, Panel B). Simple slope analyses revealed that objective diversity was not significantly related to positive out-group attitudes for individuals living in an objectively high-threat neighbourhood ( $\beta = .01, p = .90$ ), whereas this relationship was slightly positive and marginally significant among people residing in a more secure district ( $\beta = .21, p = .07$ ).

Additionally, we tested the interactions combining subjective and objective indicators. For the combination of perceived diversity and objective social threat in the neighbourhood, no main effects for perceived diversity ( $\beta = -.09, p = .11$ , both in step one and two), and for objective social threat in the neighbourhood ( $\beta = .03, p = .62$ , both in step one and two) were found. Also, no interaction effect was found ( $\beta = -.01, p = .88$ ; see Figure 2, Panel C). For the combination of objective diversity and perceived social threat in the neighbourhood, no main effects were found for objective diversity ( $\beta = .02, p = .77$  in step one and  $\beta = .07, p = .23$  in step two), and for perceived social threat in the neighbourhood ( $\beta = -.07, p = .20$  in both step one and two). However, the interaction effect was significant ( $\beta = -.12, p < .05$ ; see Figure 2, Panel D). Simple slope analyses indicated that objective diversity was unrelated to positive

out-group attitudes for high perceived social threat in the neighbourhood levels ( $\beta = -.01$ ,  $p = .85$ ), while this relationship was slightly positive and marginally significant among individuals perceiving less threat in their environment ( $\beta = .15$ ,  $p = .08$ ). [Figure 2 here]

Finally, we tested whether any of the obtained two-way interactions are further qualified by a three-way interaction. For both the objective and the subjective measures, the three-way interactions were not significant, all  $\beta$ s  $< .07$ , all  $p$ s  $> .30$ .

### **Discussion**

The present study aimed to investigate whether the relationship between (objective and perceived) ethnic diversity within a community and the attitudes people hold towards immigrants is moderated by individual differences in authoritarianism as well as by social threat in the neighbourhood (either objectively measured or perceived as such). In line with our hypotheses, the results confirmed that diversity was negatively related to positive out-group attitudes among high authoritarians, whereas this association was positive among low authoritarians. Furthermore, diversity was generally negatively associated with positive attitudes towards immigrants under high levels of social threat in the neighbourhood, while diversity was not significantly related to ethnic out-group attitudes under low levels of social threat in the neighbourhood. These interaction effects may, at least partly, explain the inconsistent findings in previous research examining whether ethnic diversity and out-group attitudes are unrelated (e.g., Hjerm 2007), negatively interrelated (e.g., Quillian 1995), or positively interrelated (e.g., Wagner et al. 2006).

According to Oliver and Mendelberg (2000), majority members' racial opinions are partly shaped by informational cues from their social environment such as the presence of ethnic minorities and multiculturalism. While people low in authoritarianism perceive the presence of immigrants as an enrichment to the local neighbourhood, for high authoritarian

individuals, these cues of diversity are experienced as a direct threat to the dominant culture (Cohrs and Ibler 2009; Duckitt 2001; Kauff et al. 2013), and are therefore associated with negative feelings towards ethnic-cultural minorities (Stephan and Renfro 2002). This person-environment interaction is consistent with Sibley and colleagues (in press) who demonstrated that people who perceive the world as dangerous and live in an ethnically diverse or multicultural environment hold rather negative attitudes towards ethnic minorities. This finding is also in line with the results of previous studies conducted by Cohrs and colleagues (Cohrs and Asbrock 2009; Cohrs and Ibler 2009; Cohrs and Stelzl 2010), who reported such two-way interactions. These authors used a single measure of ‘immigrant threat’, which explicitly links environmental threat to (the presence of) immigrants. In the present study, we extended these previous findings by using 1) a broad and well-established individual difference variable, i.e., authoritarianism, and 2) a more context-based approach to threat, i.e., specific indicators of threat in the local community, rather than generalized worldviews concerning danger and threat, or threat explicitly linked to and imposed by the out-group.

In addition to the ideological individual differences aspect of dangerous world perceptions, we thus considered perceived and objective social threat in the immediate environment, and we investigated its interaction with diversity. Indeed, whereas authoritarianism typically relates to higher threat sensitivity, living in an environment that is (perceived as) unsafe can be considered as an external source of increased threat salience. In this respect, the sheer presence of a high proportion of immigrants in a community could be regarded by its residents as a contributing factor to the dangerous environment one lives in. Such an attribution may lead to greater negative out-group attitudes (McLaren 2003; Semyonov et al. 2004). Conversely, when people live in a safe environment, threat is low and ethnic minorities are likely to be evaluated positively within this benign social context. Under these conditions, the social environment may facilitate the development of positive social



norms that increase the recognition and appreciation of different social identities. Such an improved intergroup context, in turn, is likely to relate to more positive attitudes towards ethnic minorities (e.g., Aberson 2010, Wagner et al. 2006).

We found that there are individual as well as contextual moderators in the diversity-attitude relationship. Although one might expect these influences to operate at the same time (e.g., authoritarians reacting especially negative towards immigrants when living in a neighbourhood that is both highly diverse and high in social threat), no significant three-way interactions were found. Importantly, these results indicate that high authoritarians respond to high ethnic diversity with increased out-group rejection, even when the local neighbourhood is not threatening. Similarly, higher diversity in threatening neighbourhoods decreases positive attitudes towards immigrants, even for people that are low in authoritarianism. Hence, we suggest that both broader ideological beliefs, based on a view of the world as dangerous, and specific threatening characteristics of the local neighbourhood simultaneously but independently determine the relationship between diversity and attitudes towards immigrants in a very similar way.

A first important merit of the present study pertains to the inclusion of both subjective and objective measures, not only of local ethnic diversity but also of social threat in the neighbourhood. In particular, we were able to demonstrate that the interactions obtained with subjective variables could be replicated with objective markers of local neighbourhood diversity and threat. Indeed, for both the subjective and the objective indicators, the interactions between diversity and authoritarianism were significant, as were the interactions between diversity and social threat in the neighbourhood, and one cross-method interaction between objective diversity and perceived social threat. Importantly, this replication with objective measures also indicates that the effects found with subjective measures could not merely be attributed to biased or extreme responding.

A second specific merit is the fine-grained level of analysis (i.e., zip-code) to measure the specific ethnic and social environment of the respondents. Previously, the country-level study of Hjerm (2007), the region-level study of Evans and Need (2002), and the municipality-level study of Schlueter and Scheepers (2010) have indicated that perceived as well as actual minority proportion have no straightforward link with attitudes towards ethnic minorities. Semyonov and colleagues (2004), however, found a main effect for subjective (but not for objective) diversity at the district-level. Based on these previous findings, one might infer that the lack of direct associations in some studies may be due to too broad of a level of analysis. However, the present study, using a very fine-grained level of analysis, also showed no main effects of diversity, which is at odds with the 'level-of-analysis'-explanation for the divergent findings in prior research. Instead, to understand this diversity-attitude relationship, it is important to look at interactions as diversity can be associated with either more negative or more positive out-group attitudes, dependent on individual and contextual moderators such as authoritarianism and social threat in the neighbourhood.

This interaction approach that simultaneously takes psychological and socio-structural variables into account to explain social phenomena also responds to Pettigrew's (1991) call for a 'contextual social psychology'. In line with this perspective, the present findings indeed demonstrate that the link between ethnic diversity and the majority's attitudes towards immigrants is complex and determined by third variables at the individual as well as at the contextual level.

### **Implications and Directions for Future Research**

The present results also suggest several potential directions for improving intergroup relations and may help to identify specific individuals for whom particular interventions may be most efficient. Firstly, positive contact with different ethnic groups has the capacity to reduce intergroup anxiety and threat perceptions, which in turn leads to more positive out-

group attitudes (e.g., Pettigrew et al. 2007; Pettigrew and Tropp 2008; Tausch et al. 2007).

These effects are most pronounced among high authoritarians, so they might especially benefit from specific contact-based interventions (e.g., Asbrock et al. 2012; Dhont and Van Hiel 2009, 2011; Hodson 2011). As high ethnic diversity is associated with threat perceptions among high authoritarians, future studies may investigate the role of intergroup contact in the interaction effect of diversity and authoritarianism on attitudes towards ethnic minorities.

Secondly, from a social-environmental perspective, certain neighbourhoods and communities can then be targeted for specific intervention purposes. Aberson (2010) has argued that a safe and secure social environment offers an optimal intergroup context that facilitates the development of positive social norms. In contrast, in impoverished regions with high criminality and unemployment rates (i.e., high social threat in the neighbourhood), attitudes towards immigrants are likely to be based on fear and threat (McLaren 2003). Hence, in highly diverse and disadvantaged districts, negative attitudes towards immigrants may be effectively reduced by implementing neighbourhood-level interventions that address real-life threat and lower the (perception of) threat and danger in the local environment.

Finally, a growing body of research on generalized prejudice has shown that individuals who hold negative attitudes towards a particular ethnic group also tend to be less favourable towards other ethnic groups, and even towards other minority groups that are not based on ethnicity (e.g., Akrami, Ekehammar, and Bergh 2011; Duckitt and Sibley 2007; McFarland 2010; see also, Allport 1954), as such supporting the use of measures referring to immigrants as a single group for the purpose of our study. Nevertheless, future studies might focus on individual immigrant groups concentrated in specific areas, considering how the distribution of specific minority groups relates to group-specific attitudes (e.g., Fleischmann et al. 2012). Such studies may also investigate the influence of change in the ethnic composition over time rather than the momentarily ethnic composition. Hjerm (2009) already

found that people were more likely to hold anti-immigrant attitudes if they lived in a poor municipality with a large proportion of foreign-born people, and similarly, if a high influx of foreign-born people (i.e., change in diversity) was accompanied by poor economic development over time. These findings suggest that the same contextual factors may moderate the diversity-attitude relationship at a specific time, as well as in the long run. Longitudinal studies taking into account overall development in ethnic composition over time and sudden upsurges in immigration (see e.g., Coenders and Scheepers 2008) may therefore be useful to further investigate the role of the proposed moderating factors.

## **Conclusion**

To understand the relationship between ethnic diversity and out-group attitudes, it is crucial to take into account both individual and contextual influences in this relationship. The current results indicate that authoritarianism as well as perceived and objective social threat in the neighbourhood are moderating factors in the association between diversity and attitudes towards immigrants. These findings may therefore also contribute to the on-going public and political debate about the impact of the changing ethnic composition in multicultural societies and the challenges for improving intergroup relations and attitudes (see also, Kauff et al. 2013).

## Notes

<sup>1</sup> A zip-code region in the Netherlands is comprised of all zip-codes that share the first two digits (for example: zip-code region one consists of all zip-codes between 1000 and 1099, zip-code region two consists of all zip-codes between 1100 and 1199, ..., zip-code region 90 consists of all zip codes between 9900 and 9999). A zip-code region covers about 82 square kilometres.

<sup>2</sup> Non-Western ethnic minorities are defined as immigrants whose ethnic background (or that of at least one parent) is in Africa, South America or Asia (excluding Indonesia or Japan). Most non-Western minorities are Turks (23,2%), Moroccans (21,1%) and Surinamese (20,7%; CBS; the Netherlands, 2010). Notice that in the Dutch context, the category 'non-western minorities' is generally referred to as 'ethnic minorities' (Guiraudon, Phalet, and ter Wal 2005). For that reason, we use both terms interchangeably.

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## Tables

Table 1. Correlations among variables

Measure	1	2	3	4	5	6
1. Perceived Diversity	-					
2. Objective Diversity	.50**	-				
3. Perceived Threat	.35**	.28**	-			
4. Objective Threat	.43**	.54**	.27**	-		
5. RWA	.00	-.01	.03	-.06	-	
6. Positive Attitudes	-.08	.00	-.06	-.01	-.16**	-

Note: \*:  $p < .05$ ; \*\*:  $p < .01$ ; \*\*\*:  $p < .001$

### **Figure captions**

Figure 1:

Interactions between perceived diversity and authoritarianism (Panel A), and between objective diversity and authoritarianism (Panel B), on positive out-group attitudes

Figure 2:

Interactions between perceived diversity and perceived threat (Panel A), objective diversity and objective threat (Panel B), perceived diversity and objective threat (Panel C), and objective diversity and perceived threat (Panel D), on positive out-group attitudes

Figure 1, Panel A

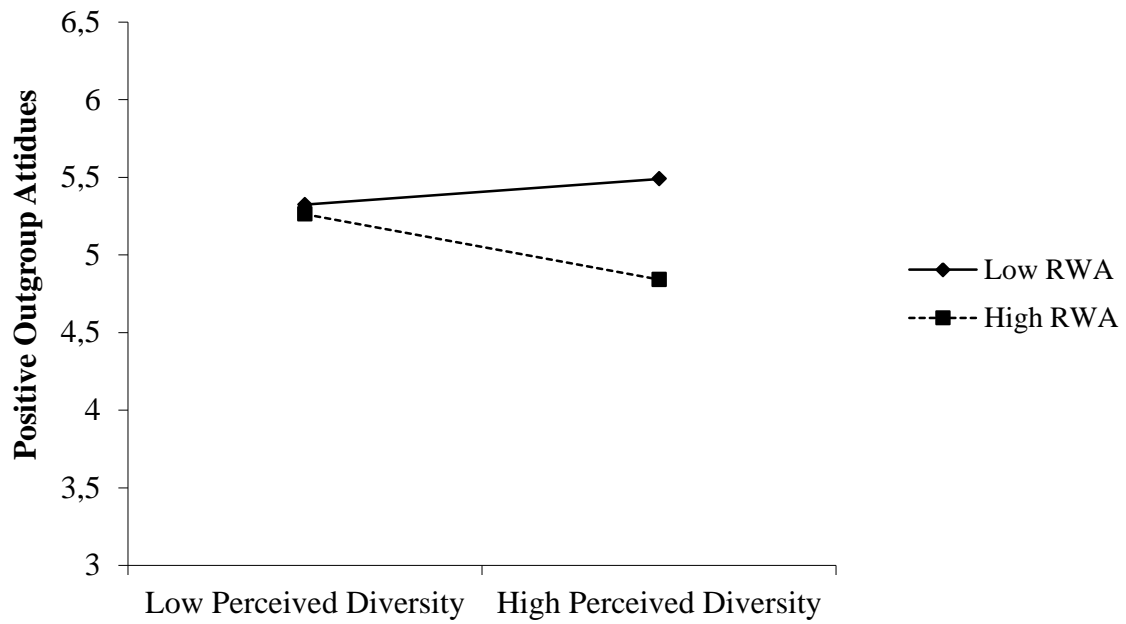


Figure 1, Panel B

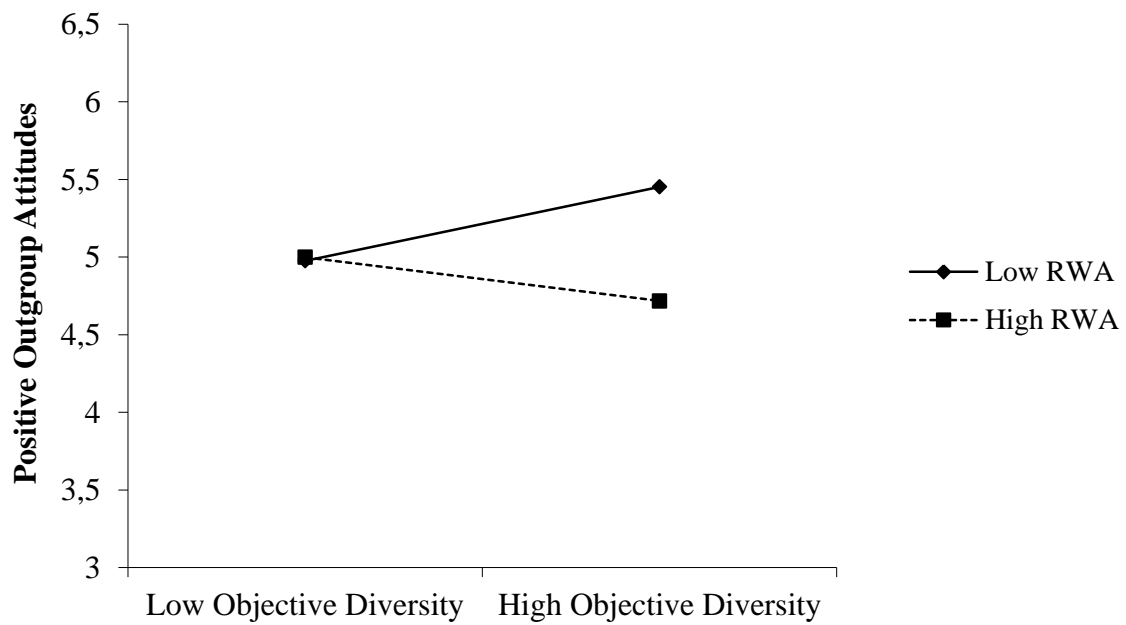


Figure 2, Panel A

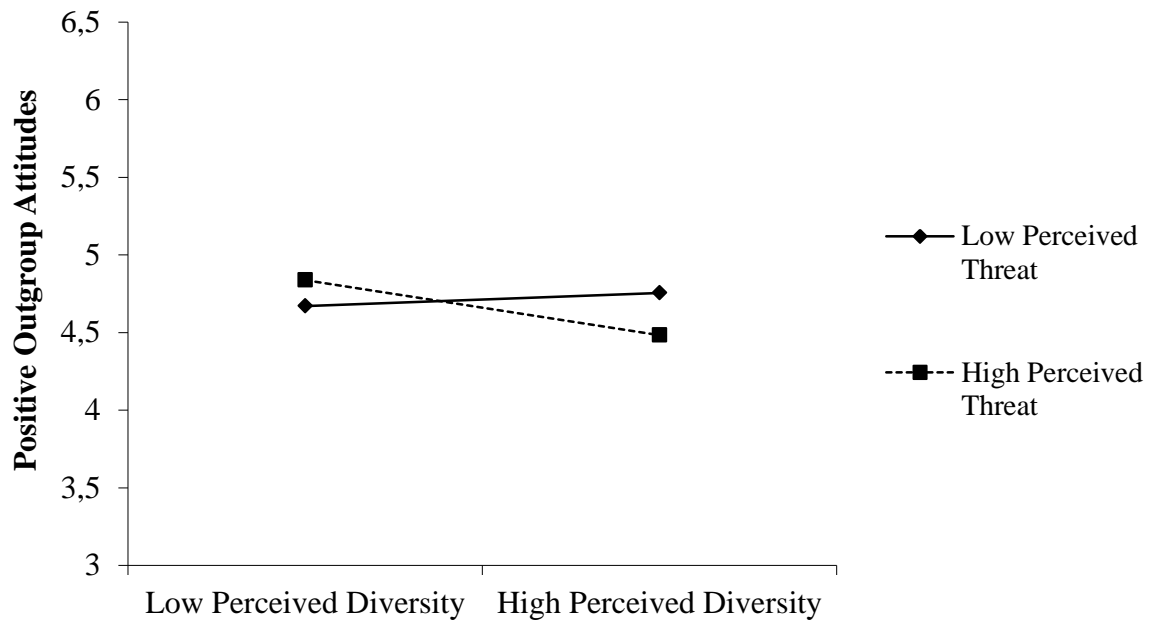


Figure 2, Panel B

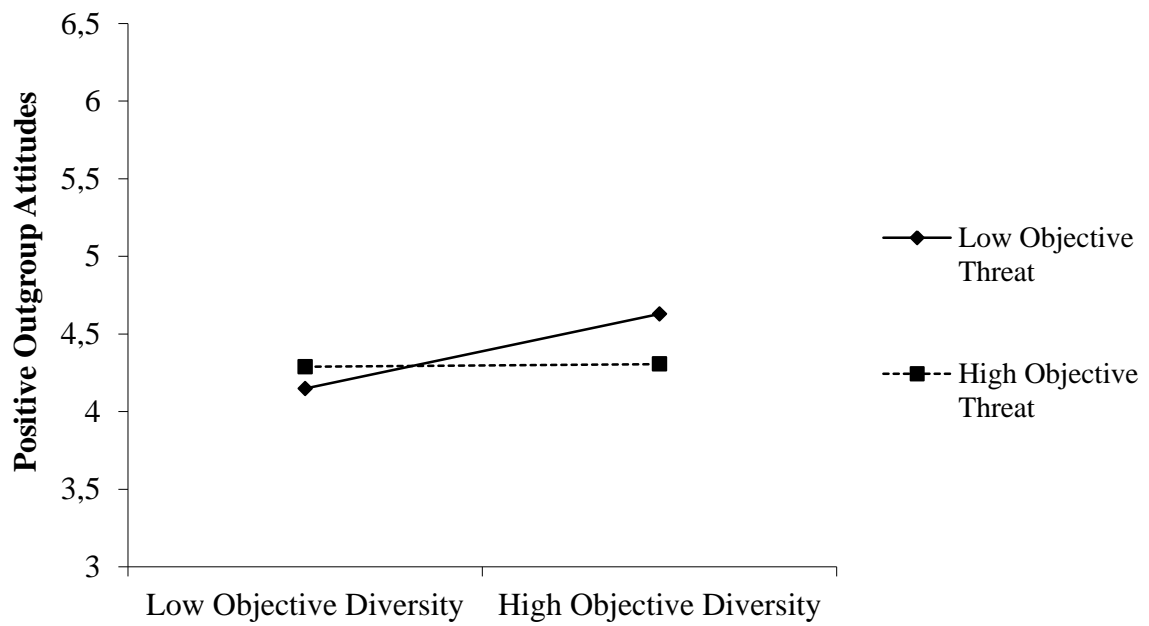




Figure 2, Panel C

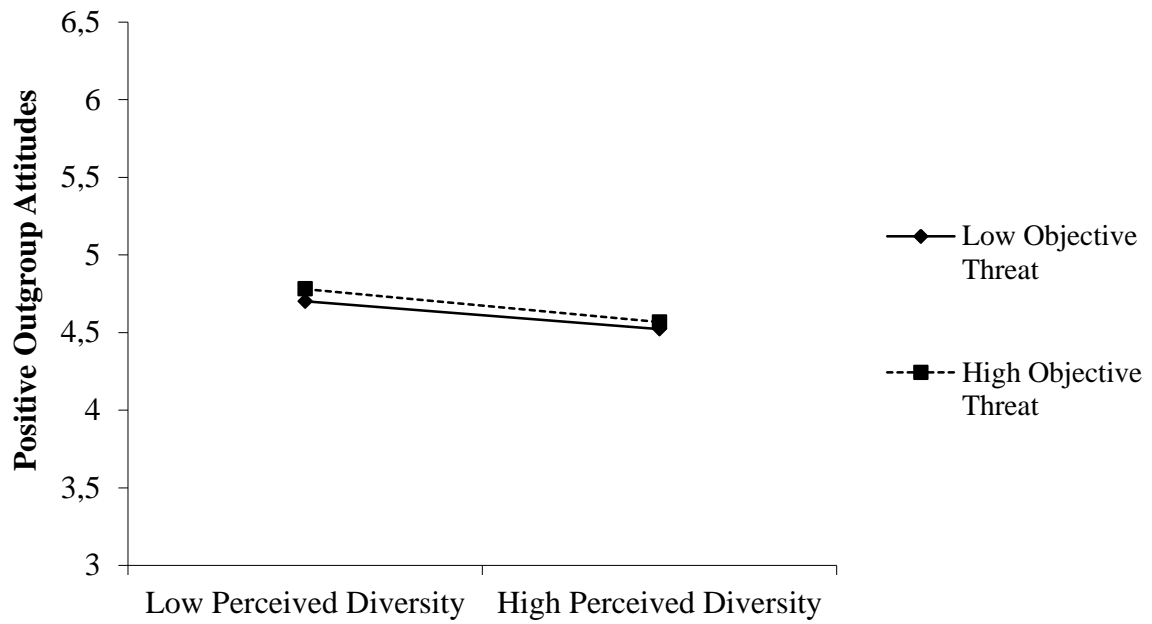


Figure 2, Panel D

