



Development of anti-immigrant attitudes in adolescence: The role of parents, peers, intergroup friendships, and empathy

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Ethnic and racial intergroup attitudes are assumed to develop due to the influence of socialization contexts. However, there is still little longitudinal evidence supporting this claim. We also know little about the relative importance of socialization contexts, the possible interplay between them as well as about the conditions and mechanisms that might underlie socialization effects. This longitudinal study of adolescents ($N = 517$) examined the effects of parents and peers' anti-immigrant attitudes as well as intergroup friendships on relative changes in adolescents' anti-immigrant prejudice, controlling for the effects of socioeconomic background. It also examined whether the effects of parents or peers would depend on adolescents' intergroup friendships. In addition, it explored whether the effects of parents, peers, and intergroup friendships would be mediated or moderated by adolescents' empathy. Results showed significant effects of parents, peers, intergroup friendships, and socioeconomic background on changes in youth attitudes, highlighting the role of parental prejudice. They also showed adolescents with immigrant friends to be less affected by parents and peers' prejudice than youth without immigrant friends. In addition, results showed the effects of parents, peers, and intergroup friendships to be mediated by adolescents' empathic concern. Theoretical and practical implications of these findings are discussed.

Although immigration has become an everyday reality in western democracies, the attitudes towards immigrants are not always positive. Trends of increasing anti-immigrant sentiments (Semyonov, Raijman, & Gorodzeisky, 2006) paired with their grave consequences such as exclusion, violence, and discrimination (Bunar, 2007; Dovidio, Brigham, Johnson, & Gaertner, 1996) make it important to understand their origins and the ways they can be reduced. Compared to the extensive study of the prevalence of anti-immigrant attitudes (Eurobarometer, 1974–2016), the dearth of developmental research is puzzling, especially given the interest in reducing prejudice (Beelmann & Heinemann, 2014). Social psychological theories have highlighted the role of socialization agents, for example, parents, peers, and intergroup friendships, in the development of children and adolescents' prejudice (Aboud & Amato, 2001; Allport, 1954; Hardin & Conley, 2001; Kandel, 1978; Pettigrew & Tropp, 2006). Research has offered considerable empirical support to these claims (Davies, Tropp, Aron, Pettigrew, & Wright, 2011; Degner & Dalege, 2013; Van Zalk, Kerr, Van Zalk, & Stattin, 2013). This study aimed to add to the

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extant research in a number of ways. First, given the cross-sectional or experimental nature of the majority of previous studies, we know little about the long-term effects of parents, peers, and intergroup friendships in real life. Thus, this study examined their effects longitudinally and in real-world settings. Second, previous research studied socialization contexts separately and, hence, we know little about their relative importance or about a possible interplay between them. Thus, this study examined their effects simultaneously and controlling for the effects of socioeconomic background. Third, the conditions and mechanisms underlying parent–child and peer–child attitudes transmission are unclear. Thus, this study examined whether youth empathy would help to explain the effects of parents and peers. Finally, this study focused on adolescence. Although it is a crucial period for the development of intergroup attitudes, previous research has mostly studied children.

Development of anti-immigrant attitudes

Although intergroup attitudes develop due to the interaction between genetic, environmental, and situational factors (Hatemi *et al.*, 2009), social psychological theories have highlighted the role of social contexts, in particular parents, peers, and intergroup friendships (Aboud & Amato, 2001; Allport, 1954; Hardin & Conley, 2001; Kandel, 1978; Pettigrew & Tropp, 2006).

The effects of parents and peers have been explained in terms of social learning and attitudes transmission. Social learning theory holds that children and adolescents learn attitudes through observation and imitation of parents and peers to gain their acceptance (Allport, 1954; Bandura, 1977). Thus, parents and peers communicate, model, and reinforce attitudes, which contributes to parent–child and peer–child attitudinal similarity. Research on general political socialization has shown significant associations between parents and their children’s political attitudes (Jennings, Stoker, & Bowers, 2009; Westholm, 1999). Research focusing on socialization of ethnic and racial prejudice has indicated a significant, moderate parent–child concordance (for review, see Degner & Dalege, 2013). The strength of intergenerational transmission has been shown to be moderated by relationship quality, that is, the better the relation the stronger the parental influence (Miklikowska, 2016). Concerning the effects of peers, the results of cross-sectional studies have been contradictory. While one study reported peer–adolescent similarity in ethnic prejudice (Kiesner, Maas, Cadinu, & Vellese, 2003), two studies showed no relation between peers and adolescents’ racial prejudice (Aboud & Doyle, 1996; Ritchey & Fishbein, 2001). In contrast, longitudinal study of Van Zalk *et al.* (2013) showed the effect of peers’ anti-immigrant attitudes on changes in adolescents’ prejudice while Blanchard, Crandall, Brigham, and Vaugn (1994) and Sinclair, Lowery, Hardin, and Colangelo (2005) experimentally showed the effect of peers’ opinions on adolescents’ racial attitudes.

The influence of intergroup friendships has been explained in the light of intergroup contact theory (Allport, 1954; Pettigrew & Tropp, 2006). Positive contact and friendships with the outgroup members lead to increases in empathy, reduction of anxiety, and ultimately to reduction of negative intergroup attitudes (Pettigrew & Tropp, 2006). Research has repeatedly found positive intergroup contact to be inversely related to prejudice (for reviews see Davies *et al.*, 2011; Pettigrew & Tropp, 2006). In sum, there is a substantial theoretical support and empirical evidence for the effects of parents, peers, and intergroup friendships on the development of ethnic and racial attitudes. Still, due to

the limitations of previous studies, it is difficult to draw firm conclusions about these relationships.

Despite the fact that socialization is a longitudinal process, little is known about the long-term effects of parents, peers, and intergroup friendships on children and adolescents' prejudice. Research on parents and peers' effects has almost exclusively been based on correlations (for exceptions see Miklikowska, 2016; Van Zalk *et al.*, 2013). Hence, the long-term relations between these socialization contexts and youth attitudes as well as the continuity of socialization effects at various stages of development are unclear. It has been suggested that influence of parents might diminish in middle and late adolescence, compared to earlier periods, given that adolescents spend more time with their peers (Berndt, 1979). Conversely, it has been suggested that the effects of peers might decrease between ages 14 and 18 when the resistance to peer influences increases (Steinberg & Monahan, 2007). In the same vein, although the effects of intergroup contact have been shown by numerous studies (Davies *et al.*, 2011; Pettigrew & Tropp, 2006), the majority of them were either cross-sectional or experimental (for exception see Van Laar, Levin, Sinclair, & Sidanius, 2005). Hence, little is known about the long-term relation between contact and prejudice and about the effects of contact in real-life settings, where intergroup interactions are voluntary. Short-term longitudinal study of Van Laar *et al.* (2005) showed weak-to-insignificant effects of friendships in real life, suggesting that their effects might wear off with a longer time interval. This might be particularly likely in middle and late adolescence when the race homophily increases (Shrum, Cheek, & Hunter, 1988) and intergroup friendships are less stable (Aboud, Mendelson, & Purdy, 2003). The longevity of socialization effects, aside of its theoretical significance, has practical implications. Anti-prejudice programmes are typically interested in long-lasting effects (Beelmann & Heinemann, 2014). Thus, longitudinal research based in non-experimental settings is needed to answer questions about the long-term potential of parents, peers, and intergroup friendships' effects.

Although research has studied the role of parents, peers, and intergroup friendships, the relative effects of these socialization contexts and the possible interplay between them are still unclear. Previous studies have focused on one context at a time. Yet, some factors might be better predictors of intergroup attitudes than others. Assuming that ethnic prejudice undergoes comparable socialization like other attitudes or values, one would expect a major parental influence (Grusec, 2011). This would be in line with the assumptions that long-term and obligatory relationships with parents may exert a stronger hold on attitudes than transitory or optional relationships with peers or intergroup friends (Allport, 1954; Kuczynski, Zahn-Waxler, & Radke-Yarrow, 1987). Unfortunately, little attention has been devoted to the comparison of socialization effects. However, the magnitude of influences, aside from its theoretical significance, has practical implications. Anti-prejudice intervention programmes typically focus on adolescents' intergroup contact (Beelmann & Heinemann, 2014), despite little evidence for the importance of contact compared to other socialization influences. Studying influential contexts simultaneously becomes additionally important if we consider the issue of possible interplay between them. Research shows that correlations between parents and adolescents' racial prejudice are smaller for youth with a high level of intergroup contact (Dhont & Van Hiel, 2012; Edmonds & Killen, 2009), suggesting possible moderation effects. To test these ideas, longitudinal studies examining simultaneous effects of parents, peers, and intergroup friendships are needed.

Despite the fact that socioeconomic status is an important socialization context for adolescents' values (Kohn, Slomczynski, & Schoenbach, 1985), the majority of research

on prejudice socialization has not controlled for its effects (Degner & Dalege, 2013; Pettigrew & Tropp, 2006). This fact, along with the small-sized samples, raises questions about the estimates of parents, peers, and intergroup friendships' effects. In addition, studies with adolescents' reports on parental prejudice and the number of intergroup friends have resulted in higher correlations than studies with parental reports and a two-step procedure of identifying intergroup friends, suggesting a possible desirability bias (Gniewosz, Noack, Wentura, & Funke, 2008; Smith, 2002). For more accurate estimates of socialization effects, studies with control variables, bigger samples, and more stringent measures are needed.

Although adolescence is a crucial period for the development of intergroup attitudes (Erikson, 1968), previous research has mostly studied children (for reviews see Degner & Dalege, 2013; Raabe & Beelmann, 2011). Hence, our knowledge on development of prejudice in adolescence is limited. The few short-term longitudinal studies suggest no significant changes in adolescents' attitudes, which would imply that anti-prejudice programmes should focus on children. For a fuller picture of prejudice development, we need to study adolescents.

While research on the role of intergroup friendships suggests individuals' empathy to explain a significant portion of friendships' effects on prejudice (Pettigrew & Tropp, 2008), research on the role of parents and peers' attitudes is rather silent as to the mechanism and conditions of attitudes transmission. Scholars have urged attention to processes that may help to explain parents and peers' effects (Aboud & Amato, 2001). Given that considering intergroup relations is a socio-cognitive task, where individuals prioritize considerations of empathy and fairness or conventions and stereotypes (Killen, Piscane, Lee-Kim, & Ardila-Rey, 2001; Ruck & Tenenbaum, 2014), socio-cognitive processes such as empathy might help to explain the mechanism behind socialization effects (Miklikowska & Hurme, 2011). Additionally, the effectiveness of social input might depend on children's socio-cognitive mindset (Aboud & Amato, 2001; Black-Gutman & Hickson, 1996; Levy, 1999). Despite these premises, the mechanism and conditions of parents and peers' effects are still unclear.

Empathy and development of anti-immigrant attitudes

There is a growing consensus that empathy consists of affective and cognitive components (Davis, 1983; Eisenberg & Fabes, 1990). The affective component, referred to as empathic concern, represents a concern for others that often results in motivation to relieve their distress (Eisenberg & Fabes, 1990). The cognitive component, referred to as perspective taking, pertains to the understanding of others' internal states that may or may not result in an affective reaction towards others.

Empathy is at the core of socio-cognitive development (Eisenberg, Spinrad, & Morris, 2014). It enables social understanding, that is, making inferences about others' thoughts, emotions, and intentions, as well as relating to others, that is, taking others perspective and feeling concern over others welfare. In line with this, empathic individuals have been shown to be more socially sensitive to others and to their own behaviours (Finlay, Girardi, & Coplan, 2006) as well as more emotionally and socially competent (Eisenberg *et al.*, 1996; Miller & Jansen Op De Haar, 1997) than their less empathic counterparts.

Through sensitizing individuals to the needs and perspectives of others, empathy constitutes also a base of prosocial orientation (Eisenberg & Fabes, 1990). It has been shown to be inversely related to ethnic and racial prejudice (Bergh & Akrami, 2016; Galinsky & Moskowitz, 2000; Miklikowska, 2017) and to be positively related to

egalitarian political attitudes and support of diversity (Butrus & Witenberg, 2012; Miklikowska, 2012), suggesting that prejudiced attitudes resonate poorly with empathy. In addition, interventions designed to boost empathy have been shown to decrease prejudice (Batson *et al.*, 1997; Beelmann & Heinemann, 2014) and brain imaging studies show more prejudiced individuals to exhibit less empathic responses to the emotive states of outgroup members (Gutsell & Inzlicht, 2012). These findings have been explained by the fact that empathy enables perceptions of similarity between self and outgroups, increases valuing of others' welfare, and sensitizes to others' negative experiences.

Given empathy's negative associations with prejudice as well as its socialization origins (Barnett, King, Howard, & Dino, 1980; Miklikowska, Duriez, & Soenens, 2011), empathy has been suggested to play a significant role in socialization of intergroup attitudes. It has been theorized to mediate the effects of one of the socialization contexts, that is, intergroup friendships, on adolescents' intergroup attitudes (Pettigrew & Tropp, 2008). Research has shown that intergroup friendships lead to increases in empathy and, ultimately, to decreases in prejudice (Pettigrew & Tropp, 2008). In contrast, little attention has been offered to the possible role of empathy in parent-child and peer-child attitudes transmission. However, literature suggests that its role could be twofold. First, similarly to the intergroup friendships-prejudice relation, empathy might account for a significant portion of parents or peers effects. Empathy develops via observation of others who encourage sensitivity, induce role taking, and draw attention to another's disadvantaged situation (Barnett *et al.*, 1980; Dunn, Brown, Slomkowski, Tesla, & Youngblade, 1991; Miklikowska *et al.*, 2011). Prejudiced parents and peers might constitute empathy-impeding environments. Research shows that adolescents with prejudiced parents are rarely exposed to the targets of prejudice and their problems, that is, to the empathy-inducing experiences (Edmonds & Killen, 2009). It also shows that parental messages of mistrust and distance between groups have negative effects on adolescents' socio-cognitive development (Caughy, O'Campo, Randolph, & Nickerson, 2002; Hughes *et al.*, 2006) while parental democratic norms are positively related to youth empathy that, in turn, is positively correlated with youth tolerance (Miklikowska & Hurme, 2011). In line with this reasoning, empathy might mediate the effects of parents and peers' prejudice on youth attitudes.

Second, cognitive-developmental theories hold that the effectiveness of social input from parents and peers might depend on the child's socio-cognitive mindset (Aboud & Amato, 2001; Black-Gutman & Hickson, 1996; Levy, 1999). Research has shown empathy to moderate the effects of humanitarian concern inductions on immigrant policies (Newman, Hartman, Lown, & Feldman, 2013) and the effects of ingroup norms on outgroup liking (Nesdale, Griffiths, Durkin, & Maass, 2005). In line with this reasoning, the attitudes of highly empathic adolescents might be less affected by their parents or peers' prejudice. In sum, the literature suggests that empathy might help to explain the conditions and mechanisms underlying prejudice socialization. Despite these premises, its role has been understudied.

The present study

The main goals of this research were to examine the relative effects of three socialization contexts, that is, parents, peers, and intergroup friendships, on development of adolescents' anti-immigrant attitudes as well as to investigate possible mediators and moderators of these effects. These goals were addressed by examining whether parents and peers' attitudes as well as intergroup friendships would predict changes in

adolescents' anti-immigrant attitudes; whether effects of parents or peers would depend on adolescents' intergroup friendships; and whether empathy would mediate or moderate the effects of parents and peers' attitudes as well as intergroup friendships. It was expected that parents, peers, and intergroup friendships would predict changes in youth attitudes, with parents being most influential. It was also expected that intergroup friendships would moderate the effects of parents and peers' attitudes. In addition, it was hypothesized that empathy would mediate or moderate the effects of parents, peers, and intergroup friendships.

Method

Participants

The initial sample present at Time 1 consists of adolescents ($N = 891$, $M_{\text{age}} = 13.41$; $SD = 0.53$; 50.8% girls) from the seventh largest city in Sweden, which resembles the national average on factors such as population density, income level, and unemployment (Statistiska Centralbyrån, SCB, 2010). The sample was selected from three out of seven high schools with the purpose of including participants of both genders, with varying social and ethnic backgrounds, and assigned to vocational and theoretical programmes.

The data consist of three assessments, 2 years apart (2010, 2012, 2014). The data collections took place during school hours and were administered by trained research assistants. Participants were informed about the types of questions in the questionnaire, the approximate amount of time required, the confidentiality rule, and the voluntary character of their participation. Each class received a payment of approximately 100 EUR for participation. Parents received their questionnaires, the information about the study, and return envelopes by post.

For the purpose of analyses, out of all adolescents present at Time 1 ($N = 891$, $M_{\text{age}} = 13.41$; $SD = 0.53$; 50.8% girls) participants with an immigrant background were excluded ($N = 187$). Next, adolescents whose parents responded at T1 ($N = 517$) (parents' $M_{\text{age}} = 44.38$; $SD = 4.95$) were compared with participants whose parents did not respond at T1 ($N = 187$) on the background variables (gender, family structure [intact vs. not intact]) and the T1 study variables using logistic regression analysis. The background variables did not predict parental response and neither did adolescents and peers' attitudes. Although intergroup friendships, $\chi^2(1, N = 674) = 0.59$, $p < .01$, were significantly related to parental response, low value of Nagelkerke $R^2 = .01$ showed that this difference would have very small chance of affecting the analyses (Borooah, 2001). Therefore, adolescents without parental questionnaire at T1 were deleted. To test whether the dropout of adolescents from T1 to T2 ($N = 56$) was related to the background and the study variables, logistic regression analyses were performed testing whether attrition (dropout = 0, retention = 1) was predicted by the background (gender, family structure, income, parental education) or the T1 study variables. The results showed no significant differences between adolescents who participated at both T1 and T2 and those who participated at T1 only on gender, income, or parental education. Although adolescents from intact families were more likely to participate at both time points than adolescents from not-intact families, $\chi^2(1, N = 507) = 0.42$, $p < .05$, low value of Nagelkerke $R^2 = .02$ indicated that this difference would have small chance of affecting the analyses. Attrition of adolescents from T1 to T2 was not significantly related to any of the T1 study variables. Similarly, attrition of adolescents from T1 to T3 ($N = 131$) was not significantly related to gender, family structure, or income. Although parental education significantly predicted dropout from T1 to T3, $\chi^2(1, N = 469) = 1.42$, $p < .05$, low value

of Nagelkerke $R^2 = .02$ showed that this difference would have very small chance of affecting the analyses (Borooah, 2001). The results showed no differences between adolescents who participated in both T1 and T3 and those who participated only at T1 on the study variables. Overall then, no major differences in T1 study variables emerged between those adolescents and parents who stayed in the study and those who dropped out. With two exceptions, the background variables were also unrelated to dropout. In the next step, participants with and without complete data (average missing 11%) were compared on the study variables using Little's (1988) missing completely at random test. A chi-square of $\chi^2(284) = 323.38$, n.s. suggested that data were missing at random allowing to reliably account for missing values with the expectation-maximization algorithm generating maximum likelihood estimates (Schaefer & Graham, 2002).

Measures

Anti-immigrant attitudes

Adolescents and parents independently reported on their attitudes towards immigrants by rating three items: 'Immigrants often come here just to take advantage of welfare in Sweden', 'It happens too often that immigrants have customs and traditions that not fit into Swedish society', and 'Immigrants often take jobs from people who are born in Sweden'. All items were rated on a 4-point Likert scale (1 = don't agree at all to 4 = agree completely) and their mean was used to construct the scale score. These items have commonly been used before to tap anti-immigrant attitudes (European Social Survey, 2002–2015; Miklikowska, 2016; Van Zalk *et al.*, 2013). Cronbach's alphas for the scale were .77, .79, and .84 for adolescents at T1, T2, and T3, respectively, and .71 for parents at T1. These estimates are similar to those reported in previous studies (Miklikowska, 2016; Van Zalk *et al.*, 2013). Additionally, a confirmatory factor analysis was performed. The corresponding three items were used to estimate a latent factor at each time point for adolescents and their parents. The solution was evaluated in terms of the strengths of its standardized factor loadings (Brown, 2006). Loadings above .40 are considered acceptable and above .70 excellent (Comrey & Lee, 1992). All factor loadings at T1 were above .70, $p < .001$ for adolescents and above .54, $p < .001$ for parents. For adolescents at T2 and T3, factor loadings were above .73, $p < .001$ and above .68, $p < .001$, respectively. Thus, the items represented one factor.

Friends nomination

Adolescents were asked to identify up to eight best friends at school. 96% of adolescents nominated at least one friend and 52% of adolescents nominated up to eight friends. Nineteen adolescents (4%) failed to nominate any friends and these were treated as missing data. To maximize the available data, the name of the first nominated friend was converted to the code number of the respective participant and matched with the corresponding data. In 34 cases (7%), where data from the first nominated friend were missing (due to nomination of peers outside of the sample), the subsequent nominated friend's score was used.

Intergroup friendships

Adolescents were asked to identify up to eight best friends at school. Similarly to Van Zalk *et al.* (2013), intergroup friendships refer to nomination of a peer who was either first-

generation (i.e., born outside of Nordic countries) or a second-generation immigrant (i.e., parents born outside of Nordic countries). Adolescents who nominated a friend with an immigrant background were coded as '1' and those who did not nominate any peer with an immigrant background were coded as '0'. Hundred and sixty-seven adolescents (33%) nominated at least one immigrant friend.

Empathy

At Time 2, adolescents completed the empathic concern and perspective taking subscales from the Interpersonal Reactivity Inventory (Davis, 1983). Empathic concern measures the tendency to experience concern for others (six items, 'When I see someone getting exploited, it feels like I want to protect that person; I care and worry about people less fortunate than me; When I see someone being unfairly treated, it happens that I don't feel particularly sorry for him/her (reverse coded); I would describe myself as quite a good-hearted person; It happens that I don't feel sorry for other people when they have problems (reverse coded); and Other people's misfortune doesn't usually affect me particularly much (reverse coded)'). Perspective taking measures the tendency to adopt the viewpoint of other people (five items, 'I think there are two sides to everything, and I try to see them both; When I'm upset with someone I generally try to put myself in that person's position; I sometimes find it difficult to see things from the others' point of view (reverse coded); I try to understand everyone's point of view in a conflict before reaching a decision; and Sometimes I try to understand my friends better by imagining how things would look from their perspective'). All items were rated on a 5-point Likert scale (1 = doesn't describe me well at all to 5 = describes me well) and their mean was used to construct the scale score. Cronbach's alphas were .78 and .72 for empathic concern and perspective taking, respectively. These internal consistencies are similar to those reported by previous studies (Davis, 1983; Miklikowska *et al.*, 2011).

Socioeconomic background

Parents reported on the household's monthly income using a 7-point Likert scale (1 = <10,000 SEK, 7 = >60,001 SEK) as well as on their education level using a 5-point Likert scale (1 = <9 years of study, 5 = university college/university). Due to rather high correlation between mother and father's education ($r = .41, p < .001$), both parents' scores were collapsed into one measure of parental education. Correlation between the measures of income and parental education was $r = .43, p < .001$.

Preliminary analyses

Means, standard deviations, and correlations of the study variables can be found in Table 1. Parents and peers' anti-immigrant attitudes were consistently related to adolescents' prejudice. Moreover, intergroup friendships were negatively related to youth attitudes and adolescents' empathic concern and perspective taking were negatively related to their prejudice. Adolescents' empathy was also negatively related to parents and peers' attitudes but positively related to intergroup friendships. To assess mean-level changes in adolescents' attitudes, a repeated measures analysis of variance was performed, with measurement time as a within-subject variable and adolescents' prejudice as dependent variable. Adolescents' attitudes showed linear increase between

Table 1. Means, standard deviations, and correlations between the variables

Variable	M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Adolescent prejudice T1	2.21	0.70	—									
2. Adolescent prejudice T2	2.31	0.67	.458***	—								
3. Adolescent prejudice T3	2.16	0.72	.238***	.603***	—							
4. Parents' prejudice T1	2.07	0.58	.202***	.230***	.306***	—						
5. Friends' prejudice T1	2.28	0.74	.168***	.229***	.139**	.015	—					
6. Intergroup friendships T1	0.33	0.46	-.086*	-.170***	-.113**	-.040	-.096*	—				
7. Empathic concern T2	3.77	0.66	-.141***	-.308***	-.365***	-.104*	-.151***	.150***	—			
8. Perspective taking T2	3.20	0.64	-.152***	-.204***	-.202***	-.178***	-.144***	.019	.396***	—		
9. Parental education T1	4.10	0.84	-.136***	-.204***	-.314***	-.335***	-.088*	-.023	.131**	.241***	—	
10. Parental income T1	4.99	1.45	-.045	-.187***	-.193***	-.193***	-.055	-.098*	.080	.209***	.446***	—

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

T1 and T2 $F(1, 517) = 10.96, \eta_p^2 = .021, p < .001$ and linear decrease between T2 and T3 $F(1, 517) = 31.39, \eta_p^2 = .057, p < .001$.

Primary analyses

Path analyses and Mplus 7 (Muthén & Muthén, 1998–2012) were used to examine:

1. Whether parents and peers' attitudes as well as intergroup friendships would predict changes in adolescents' anti-immigrant attitudes.
2. Whether adolescents' empathy would mediate or moderate the effects of parents, peers, and intergroup friendships.
3. Whether intergroup friendships would moderate the effects of parents and peers.

To test whether parents, peers, and intergroup friendships would predict changes in adolescents' anti-immigrant attitudes as well as whether empathic concern or perspective taking would mediate the effects of parents, peers, and intergroup friendships, a model was estimated, specifying stability paths for adolescents' attitudes (i.e., paths from T1 to T2 and from T2 to T3), paths from socioeconomic background (i.e., parental income and education) to adolescents' attitudes, paths from parents' attitudes to adolescents' attitudes, paths from peers' attitudes to adolescents' attitudes, paths from intergroup friendships to adolescents' attitudes, paths from parents and peers' attitudes, intergroup friendships, and socioeconomic background to adolescents' empathic concern and perspective taking, paths from empathic concern and perspective taking to adolescents' attitudes, as well as within-time correlations. Figure 1 features all the paths. Significance of the indirect effects was tested by bootstrapping confidence intervals (Preacher & Hayes, 2008).

To test whether intergroup friendships would moderate the direct or indirect effects of parents and peers' attitudes, multiple group analyses were conducted with intergroup friendships as a grouping variable. More specifically, a constrained model, where the paths from parents and peers' attitudes to adolescents' attitudes and from parents and peers' attitudes to adolescents' empathy (i.e., empathic concern and perspective taking) were set equal across the two groups (0 = no immigrant friend, 1 = immigrant friend), was compared with two unconstrained models, allowing freedom in the paths from parental attitudes to adolescents' attitudes and empathy (Model 1) and from peers' attitudes to adolescents' attitudes and empathy (Model 2). An improved model fit after releasing the constraints would suggest that intergroup friendships moderated the effects of parents or peers.

To examine whether empathic concern or perspective taking would moderate the effects of parents, peers, or intergroup friendships on adolescents' prejudice, a baseline moderation model was estimated, specifying stability paths for adolescents' prejudice (A), paths from socioeconomic background to adolescents' attitudes (B), paths from parents' attitudes, peers' attitudes, and intergroup friendships to adolescents' attitudes (C), paths from empathic concern and perspective taking to adolescents' attitudes (D), paths from the interaction terms between EC and the three predictors and between PT and the three predictors to adolescents' attitudes (constrained to zero) (E1–E6), and within-time correlations (F). This baseline model was then compared with six alternative models, where the path from one of the interaction terms to adolescents' attitudes (E1–E6) was unconstrained. Significant improvements in model fit after releasing constraints would suggest that empathic concern or perspective taking moderated the relation between the predictor and adolescents' attitudes. Figure 2 features all the paths.

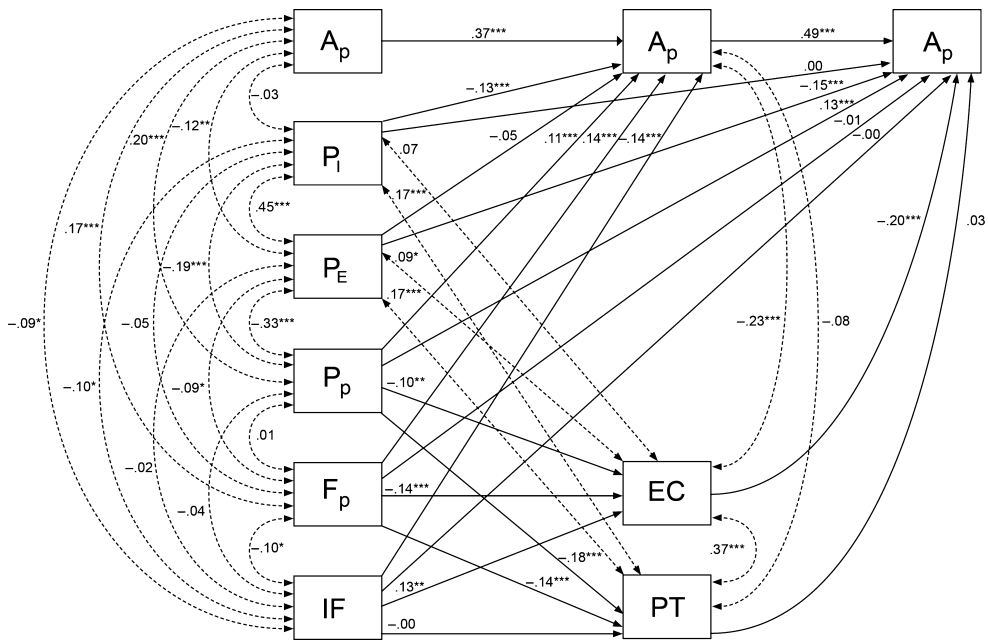


Figure 1. Standardized path coefficients from the model of the effects of parents, friends, and intergroup friendships on changes in adolescents' prejudice. Note. A_p = Adolescents' Prejudice; P_I = Parental Income; P_E = Parental Education; P_p = Parental Prejudice; F_p = Friends' Prejudice; IF = Intergroup Friendships; EC = Adolescents' Empathic Concern; PT = Adolescents' Perspective Taking. Dotted Line = Within-Time Correlations ****p* < .001; ***p* < .01; **p* < .05.

All models were evaluated using chi-square test (χ^2), the Bentler comparative fit index (CFI; Hu & Bentler, 1999), and the standardized root-mean-square residual (SRMR; Hu & Bentler, 1999). A chi-square to degree-of-freedom ratio close to 3 indicates acceptable model fit (Kline, 2011) as well as a CFI value of .90 or higher and a SRMR value of .08 or lower (Hu & Bentler, 1999).

Results

Do parents, peers, and intergroup friendships predict changes in adolescents' anti-immigrant attitudes and does empathy mediate these effects?

To examine whether parents, peers, and intergroup friendships would predict changes in adolescents' anti-immigrant attitudes as well as whether empathic concern or perspective taking would mediate these effects was estimated, specifying the direct and indirect effects of parents, peers, and intergroup friendships (Figure 1). This model showed a good fit, $\chi^2 = 10.55$ (3), CFI = .988; SRMR = .018. Stability coefficients for adolescents' attitudes in the final model were as follows: $\beta = .37$, $p < .001$ (T1–T2) and $\beta = .49$, $p < .001$ (T2–T3). Parental effect at T2 was as follows: $\beta = .11$, $p < .01$, 95% CI 0.04–0.17 and at T3: $\beta = .13$, $p < .001$, 95% CI 0.07–0.19. While the effects of peers and intergroup friendships at T2 were significant ($\beta = .14$, $p < .01$, 95% CI 0.08–0.20 and $\beta = -.14$, $p < .001$, 95% CI –0.20 to 0.07, respectively), their effects at T3 were not ($\beta = .01$, n.s. 95% CI –0.07 to 0.04 and $\beta = -.00$, n.s. 95% CI –0.06 to 0.05, respectively). The effects of socioeconomic background were also limited to one wave: The effect of parental

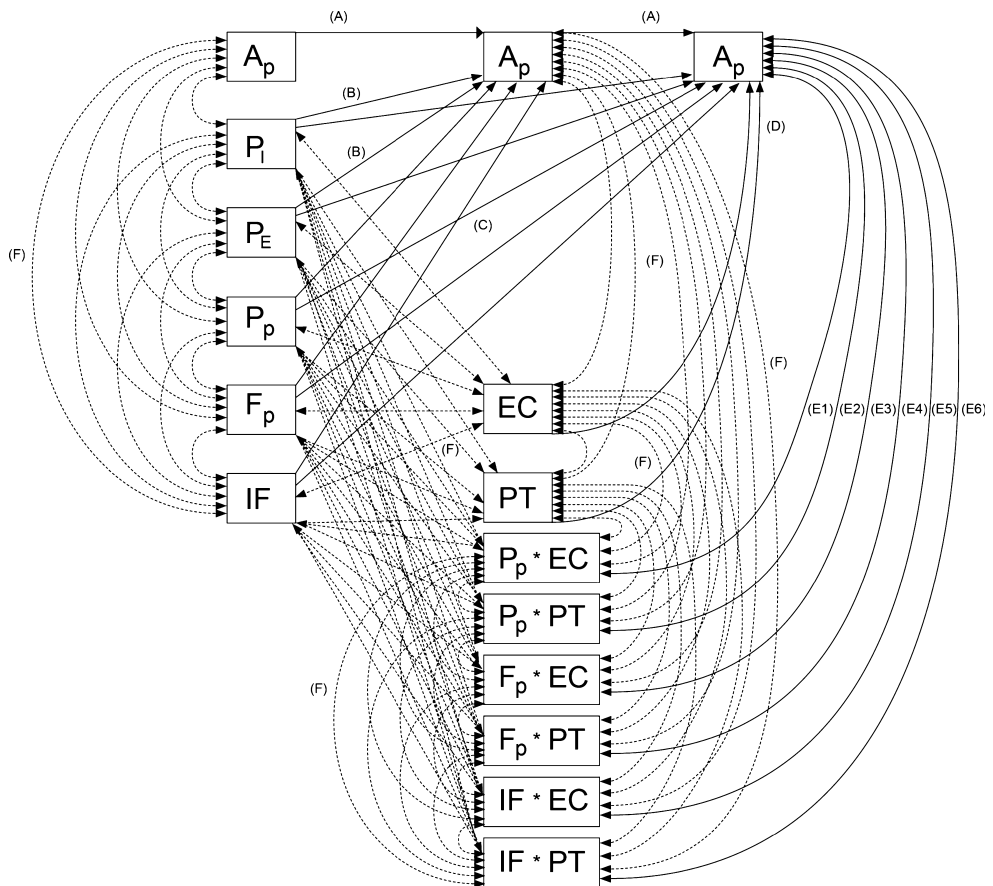


Figure 2. Model of the effects of parents, peers, and intergroup friendships on adolescents' prejudice moderated by empathic concern and perspective taking. *Note.* A_p = Adolescents' Prejudice; P_I = Parental Income; P_E = Parental Education; P_p = Parental Prejudice; F_p = Friends' Prejudice; IF = Intergroup Friendships; EC = Adolescents' Empathic Concern; PT = Adolescents' Perspective Taking; $P_p * EC$ = Interaction Term between Parental Prejudice and Empathic Concern; $P_p * PT$ = Interaction Term between Parental Prejudice and Perspective Taking; $F_p * EC$ = Interaction Term between Friends' Prejudice and Empathic Concern; $F_p * PT$ = Interaction Term between Friends' Prejudice and Perspective Taking; IF * EC = Interaction Term between Intergroup Friendships and Empathic Concern; IF * PT = Interaction Term between Intergroup Friendships and Perspective Taking. (A) = Stability Paths for Adolescents' Prejudice; (B) = Paths from Socioeconomic Background to Adolescents' Attitudes; (C) = Paths from Parents' Attitudes, Peers' Attitudes, and Intergroup Friendships to Adolescents' Attitudes; (D) = Paths from Empathic Concern and Perspective Taking to Adolescents' Attitudes; (E1–E6) = Paths from the Interaction Terms to Adolescents' Attitudes; (F) = Within-Time Correlations (Dotted Lines).

education was significant at T3 ($\beta = -.15, p < .001, 95\% \text{ CI } -0.22 \text{ to } 0.09$), while the effect of parental income was significant at T2 ($\beta = -.13, p < .001, 95\% \text{ CI } -0.20 \text{ to } 0.07$). Parents and peers' attitudes as well as intergroup friendships predicted the level of empathic concern ($\beta = -.10, p < .02, 95\% \text{ CI } -0.17 \text{ to } 0.03$; $\beta = -.14, p < .001, 95\% \text{ CI } -0.21 \text{ to } 0.07$ and $\beta = .13, p < .002, 95\% \text{ CI } 0.06\text{--}0.20$, for parents, peers, and

friendships). Parents and peer' attitudes predicted the level of perspective taking ($\beta = -.18, p < .001, 95\% \text{ CI } -0.24 \text{ to } 0.11$ and $\beta = -.14, p < .001, 95\% \text{ CI } -0.21 \text{ to } 0.07$, respectively) while intergroup friendships did not. Empathic concern predicted change in adolescents' attitudes ($\beta = -.20, p < .001, 95\% \text{ CI } -0.26 \text{ to } 0.13$) while perspective taking did not. Figure 1 features the standardized path coefficients.

The test of indirect effects revealed that parents and peers' attitudes as well as intergroup friendships predicted adolescents' empathic concern that, in turn, predicted a change in youth anti-immigrant attitudes ($\beta_{\text{ind.}} = .02, z = 2.09, p = .037, 95\% \text{ CI } 0.00-0.03$; $\beta_{\text{ind.}} = .03, z = 2.73, p = .006, 95\% \text{ CI } 0.01-0.04$ and $\beta_{\text{ind.}} = -.03, z = -2.67, p = .008, 95\% \text{ CI } -0.04 \text{ to } 0.01$, for parents, peers and intergroup friendships, respectively).

Do intergroup friendships moderate the effects of parents and peers?

To examine whether intergroup friendships would moderate the effects of parental and peers' attitudes, a constrained model, $\chi^2 = 28.11 (10), \text{ CFI} = .965; \text{ SRMR} = .038$, where the paths from parents and peers' attitudes to adolescents' attitudes as well as from parents and peers' attitudes to adolescents' empathic concern were set equal across the two groups (0 = no immigrant friend, 1 = immigrant friend), was compared with two unconstrained models, allowing freedom in the paths from parental attitudes to adolescents' attitudes and empathic concern (Model 1) and from peers' attitudes to adolescents' attitudes and empathic concern (Model 2). Model 1 fitted data better than the constrained model, $\Delta\chi^2 = 8.59 (3), p = .05$, indicating that intergroup friendships moderated the effects of parents. Model 2 fitted data better than the constrained model, $\Delta\chi^2 = 7.88 (3), p = .05$, indicating that intergroup friendships moderated peers' effects. Model with all effects unconstrained fitted data better than the constrained model, $\Delta\chi^2 = 16.91 (6), p = .01$. The model showed the moderation of direct effects of parents and peers to be limited to T2: parents and peers' prejudice predicted T1–T2 change in adolescents' attitudes for youth with no immigrant friends ($\beta = .15, p < .002$ and $\beta = .18, p < .001$, respectively), while they did not for adolescents with immigrant friends ($\beta = .05, \text{ n.s.}$ and $\beta = -.01, \text{ n.s.}$, respectively). No moderation was found at T3. The model also showed the moderation of indirect effects of parents and peers: Parents and peers' attitudes predicted empathic concern for adolescents without immigrant friends ($\beta = -.12, p < .02$; indirect effect $\beta_{\text{ind.}} = .22, z = 2.10, p = .036, 95\% \text{ CI } 0.00-0.05$ and $\beta = -.20, p < .001$; indirect effect $\beta_{\text{ind.}} = .36, z = 2.92, p = .003, 95\% \text{ CI } 0.02-0.06$, for parents and peers, respectively) while they did not for adolescents with immigrant friends ($\beta = -.02, \text{ n.s.}$; indirect effect $\beta_{\text{ind.}} = .00, z = 0.26, \text{ n.s.}$, $95\% \text{ CI } -0.02 \text{ to } 0.03$ and $\beta = .02, \text{ n.s.}$; indirect effect $\beta_{\text{ind.}} = -.00, z = -0.28, \text{ n.s.}$, $95\% \text{ CI } -0.03 \text{ to } 0.02$, for parents and peers, respectively).

Does empathy moderate the effects of parents, peers, and intergroup friendships?

To examine whether empathic concern or perspective taking would moderate the effects of parents, peers, or intergroup friendships, a baseline model, $\chi^2 = 5.42 (6), \text{ CFI} = 1.000; \text{ SRMR} = .001$, where paths from the interaction terms (E1–E6) to adolescents' attitudes were constrained to zero, was compared with six alternative models, where one of the paths was unconstrained. The unconstrained model for the interaction term between parents' attitudes and empathic concern (E1) was not significantly better than the constrained model, $\Delta\chi^2 = 0.23 (1), \text{ n.s.}$, and neither was the unconstrained model for the

interaction term between parents' attitudes and perspective taking (E2), $\Delta\chi^2 = 1.22$ (1), n.s. Thus, empathy did not moderate parental effects. The unconstrained model for the interaction term between peers' attitudes and empathic concern (E3) was not significantly better than the constrained model, $\Delta\chi^2 = 0.55$ (1), n.s., and neither was the unconstrained model for the interaction term between parents' attitudes and perspective taking (E4), $\Delta\chi^2 = 0.65$ (1), n.s. Thus, empathy did not moderate peers' effects. The unconstrained model for the interaction term between parents' attitudes and empathic concern (E5) was not significantly better than the constrained model, $\Delta\chi^2 = 0.01$ (1), n.s., and neither was the unconstrained model for the interaction term between parents' attitudes and perspective taking (E6), $\Delta\chi^2 = 1.72$ (1), n.s. Thus, empathy did not moderate the effects of intergroup friendships.

Discussion

This study examined the longitudinal effects of three socialization contexts, that is, parents, peers, and intergroup friendships, on relative changes in adolescents' attitudes towards immigrants in early and mid-adolescence. Three main questions were asked: Whether parents and peers' attitudes as well as intergroup friendships would predict changes in adolescents' attitudes; whether the effects of parents and peers would depend on youth intergroup friendships; and whether adolescents' empathy would mediate or moderate the effects of the socialization contexts? The results showed that parents, peers, and intergroup friendships predicted changes in adolescents' attitudes: Youth with more prejudiced parents and peers as well as with no intergroup friends increased in prejudice (relative to adolescents with less prejudiced parents, peers, and with intergroup friends). While parents predicted changes in youth attitudes in both early and mid-adolescence, the effects of peers and intergroup friendships were limited to early adolescence. Moreover, the results showed that adolescents with immigrant friends were less affected by parents and peers' attitudes than youth without immigrant friends. Finally, the effects of parents, peers, and intergroup friendships were partly mediated by adolescents' empathic concern.

The results show that parents, peers, and intergroup friendships predicted changes in adolescents' anti-immigrant attitudes. These results are in line with social psychological theories pointing to socialization contexts as antecedents of intergroup attitudes (Aboud & Amato, 2001; Allport, 1954; Hardin & Conley, 2001; Kandel, 1978; Pettigrew & Tropp, 2006). They are also in line with previous research on the effects of intergroup friendships as well as parents and peers' prejudice (Davies *et al.*, 2011; Degner & Dalege, 2013; Miklikowska, 2016; Van Zalk *et al.*, 2013). This study adds to the extant research by demonstrating the longevity of the effects over time. Thus far, the relation between parents and adolescents' prejudice was assessed cross-sectionally (for review, see Degner & Dalege, 2013; for exception, see Miklikowska, 2016). This study shows the longitudinal effects of parents to be smaller than the average, moderate effect sizes from previous studies. Additionally, it shows significant effects of parents in both early and middle adolescence, contrary to the ideas of diminishing parental importance (Berndt, 1979). This study also adds to the extant correlational and experimental research on peers' prejudice and intergroup friendships by showing their short-term longitudinal effects to be comparable with the small-to-moderate effects from previous studies (Pettigrew & Tropp, 2006; Van Zalk *et al.*, 2013). At the same time, the results show an absence of long-term effects of peers and intergroup friendships. Thus far, their influences have been

demonstrated for up to 2 years (Binder *et al.*, 2009; Van Laar *et al.*, 2005; Van Zalk *et al.*, 2013). The longer time interval in this study might account for the lack of long-term effects. It is possible that the effects of having experienced intergroup friendships or prejudiced peers in early adolescence wear off by the time youth turn 17 or 18. Early-adolescence friendships might end in mid-adolescence due to an increase in race homophily (Aboud *et al.*, 2003; Shrum *et al.*, 1988). With friendships gone, their long-term effects might lose significance. This would suggest that, in contrast to the typically measured short-term effects of friendships (Binder *et al.*, 2009; Van Laar *et al.*, 2005), their long-term effects might require sustained interactions. Alternatively, middle-to-late adolescents might be less susceptible to the effects of intergroup friendships or prejudiced peers than early adolescents. This would be in line with the research showing an increasing resistance to peer influences between ages 14 and 18 (Steinberg & Monahan, 2007). In sum, although more longitudinal, real-life studies are needed, current results support the idea that the long-term relationships with parents might exert a stronger hold on youth attitudes than more transitory relationships with peers and intergroup friends (Allport, 1954; Kuczynski *et al.*, 1987).

In addition to the effects of parents, peers, and intergroup friendships, this study draws attention to the effects of an often-omitted socialization context, socioeconomic background. Both parental education and income predicted changes in adolescents' anti-immigrant attitudes. Youth with poorer parents increased in prejudice (relative to adolescents with wealthier parents) while youth with better-educated parents decreased in prejudice (relative to adolescents with less-educated parents). These results are in line with previous findings showing individuals with lower education and income to express less favourable attitudes towards immigrants (Hainmueller & Hiscox, 2007; Meeusen & Kern, 2016). These effects have been explained with differences in threat perception and beliefs. Individuals of low economic status have been suggested to fear the economic effects of labour-market competition that, in case of an increased immigration, might primarily affect blue-collar workers (Meeusen & Kern, 2016). In contrast, better-educated individuals have been suggested to believe that immigration benefits the host economy and to place value on cultural diversity (Hainmueller & Hiscox, 2007). The current results are also in line with previous studies on socioeconomic status as an important socialization context for adolescents' values (Kohn *et al.*, 1985). The results extend previous studies by demonstrating the direct effects of socioeconomic status on development of adolescents' attitudes towards immigrants. They urge including socioeconomic status as an important context for prejudice socialization.

The results also show that adolescents' empathic concern mediated the effects of parents, peers, and intergroup friendships. Although scholars have urged attention to the processes that may help to explain socialization influences (Aboud & Amato, 2001; Killen *et al.*, 2001; Ruck & Tenenbaum, 2014), the effects of empathy have been limited to one socialization context, that is, intergroup friendships (Pettigrew & Tropp, 2008). This study places empathy within the attitude-transmission framework and shows that, except of intergroup friendships, empathy mediated also the effects of parents and peers. Parents and peers' prejudice as well as intergroup friendships predicted the level of adolescents' empathic concern that, in turn, predicted the change in their anti-immigrant attitudes. Even despite the absence of long-term, direct effects of peers and intergroup friendships, both factors were related to youth attitudes via their effects on empathic concern. These results are in line with studies showing empathy as a mediator of intergroup friendships effects (Pettigrew & Tropp, 2008), negative effects of prejudiced environments on youth socio-cognitive development (Caughy *et al.*, 2002; Hughes *et al.*, 2006), positive effects

of parental democratic norms on youth empathy and tolerance (Miklikowska & Hurme, 2011), and the connection between empathy and prejudice (Batson *et al.*, 1997; Bergh & Akrami, 2016; Galinsky & Moskowitz, 2000; Gutsell & Inzlicht, 2012; Miklikowska, 2012). The results suggest that empathic concern might account for a significant portion of parents, peers, and intergroup friendships' effects on youth attitudes. These results extend previous studies on parent-child and peer-child attitudes transmission by looking at the underlying mechanism. They urge caution with interpreting parent-child and peer-child similarity as a result of direct transmission and encourage studying processes that help to explain socialization effects.

Interestingly, the mediating effect was not found in case of perspective taking. It is possible that affective processes are superior mediators of socialization effects than cognitive factors. This would be in line with studies showing empathic concern and reduction of anxiety to be stronger mediators of friendships' effects than increases in knowledge (Pettigrew & Tropp, 2008). Alternatively, while affective factors might be superior mediators of socialization effects on a between-person level, cognitive factors might be superior mediators on a within-person level (Miklikowska, 2017). Given that this study was the first to include both facets of empathy, more research is needed. In addition, in contrast to research suggesting a moderating role of socio-cognitive processes (Aboud & Amato, 2001; Black-Gutman & Hickson, 1996; Levy, 1999), no moderation effects were found in case of empathy. It is possible that the 2-year lag was not optimal for detecting interactions. Alternatively, other socio-cognitive processes, for example, cognitive structure, might be responsible for moderating socialization effects (Levy, 1999). Research should further explore the role of youth socio-cognitive processes in prejudice socialization.

The results also show that intergroup friendships moderated the effects of parents and peers. Parents and peers' prejudice predicted changes in adolescents' attitudes for youth with no immigrant friends but they did not for adolescents with immigrant friends. While previous studies showed parent-adolescent attitudinal concordance to be smaller for youth with high levels of intergroup contact (Dhont & Van Hiel, 2012; Edmonds & Killen, 2009), this study offers longitudinal evidence for the moderating effects of intergroup friendships. These effects, however, were found to be limited to early adolescence. It is possible that the low stability and age-related decline of intergroup friendships hinders their long-term moderating potential (Aboud *et al.*, 2003). Thus, the moderating effects of intergroup friendships might require more sustained interactions. In addition to moderating the direct effects of parents and peers, intergroup friendships also moderated their indirect effects. The results show that parents and peers' prejudice predicted the level of adolescents' empathic concern for adolescents with no immigrant friend while they did not for youth with immigrant friends. Thus, intergroup friendships' positive effects on adolescents' empathy might counterbalance the negative effects of prejudiced contexts. Although more longitudinal research is needed, the results support the idea that intergroup friendships might be a protective factor against the effects of parents and peers' prejudice.

Although adolescents' intergroup friendships moderated the effects of parental prejudice and predicted changes in youth prejudice, they were themselves not related to parents' attitudes. This suggests that parents' prejudice might not be important for intergroup friendship formation. This would be in line with the study of Meeusen (2014), showing no relation between parental prejudice and adolescents' intergroup friendships, but in contrast to the study of Edmonds and Killen (2009), showing significant relation between adolescents' perceptions of parental prejudice and youth intergroup friendships. Using youth perceptions might account for differences in findings, as adolescents

tend to project their attitudes (Gniewosz *et al.*, 2008). The fact that intergroup friendships are independent of parental prejudice while they buffer against its effects encourages the use of intergroup contact in programmes targeting youth with prejudiced parents. Alternatively, parental attitudes might not be important for intergroup friendship formation in early adolescence but become influential later on. This would be in line with the literature showing that friendship formation in early adolescence depends on superficial factors, such as propinquity. As adolescents develop attitudes, their friendships start to reflect their beliefs (Gifford-Smith & Brownell, 2003). Given the scarce number of studies on the relation between parents' attitudes and youth intergroup friendships, more research is needed.

This study draws attention to the development of intergroup attitudes in adolescence (Erikson, 1968). In contrast to studies suggesting changes in prejudice to be limited to childhood (for review see Raabe & Beelmann, 2011), the current results show that youth anti-immigrant attitudes increased in early adolescence and decreased in mid-adolescence. These results suggest a nonlinear pattern of changes and encourage more longitudinal research on the development of prejudice in adolescence.

This research has major strengths. It is the first study to show that parents, peers, and intergroup friendships predicted changes in adolescents' intergroup attitudes over an extensive period of time. Also, we can be more confident in the estimates of the effects due to the use of a large sample, parents and peers' self-reports, and due to controlling for socioeconomic status. Moreover, this study examines the relative importance of socialization effects as well as offers longitudinal evidence for the moderating role of intergroup friendships and the mediating role of empathic concern. By placing empathy within the attitude-transmission framework, it combines the socio-psychological and developmental perspectives (Killen & McKown, 2005). Finally, by studying the development of prejudice in adolescence, this study addresses one of the main limitations of previous research (Raabe & Beelmann, 2011).

Limitations of this study need to be acknowledged. This study examined the effects of parents, peers, and intergroup friendships on an interindividual level. Future studies should identify the effects that hold not only between persons but also within persons (Molenaar, 2004). Moreover, parents and peers' attitudes as well as intergroup friendships were measured only once. Thus, the relations between the changes in socialization contexts and the changes in youth attitudes were not examined. Multiple measures of socialization contexts would allow examining whether the lack of long-term effects of intergroup friendships might be explained by the decrease in friendships in mid-adolescence. It would also help to clarify the relationship between parental prejudice and youth intergroup friendships. Additionally, it would allow for specifying bidirectional effects between adolescents and their socialization contexts (Miklikowska, 2016). Thus, future studies should include multiple assessments of parents, peers, and intergroup friendships. Prospect studies should also replicate present results with different cohorts of adolescents to examine whether youth attitudes might be particularly susceptible to the effects of intergroup friendships or peers in early adolescence. Although this research outperforms the minimum requirements for a longitudinal mediation (Cole & Maxwell, 2003), administering multiple measures of empathy would allow examining the reciprocal relations between empathy and prejudice and clarifying the role of perspective taking. Also, given the partly genetic origins of empathy (Knafo, Zahn-Waxler, Van Hulle, Robinson, & Rhee, 2008), it would be fruitful to examine the role of intergenerational similarity in empathy in parental socialization of intergroup attitudes. This study limited adolescents' friend nominations to the school environment. Future studies should

broaden spectrum of friends and study reciprocal nominations. There are other socialization agents and socio-cognitive processes that were not included here (Levy, 1999). Future research should address their role.

Conclusion and implications

This study shows the effects of parents, peers, and intergroup friendships on changes in adolescents' anti-immigrant attitudes. It highlights the direct, long-term effects of parents and the mediating role of youth empathic concern. It also shows that intergroup friendships might be a protective factor against parents and peers' prejudice. This study suggests that anti-prejudice programmes might work more closely with intergroup friendships, parental attitudes, and youth empathic concern. Given that adolescents with prejudiced parents and peers might maintain low levels of empathy, a combination of individual programmes with social interventions targeting intergroup friendships and messages about immigrants that are exchanged at home might be the most effective. This study also shows the effects of socioeconomic background on prejudice development, suggesting that reducing anti-immigrant attitudes might necessitate educational and economic changes in a society. Finally, this research suggests that the model of attitudes transmission should incorporate processes helping to explain it.

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