

# Adolescents' attitudes towards foreigners: Associations with perceptions of significant others' attitudes depending on sex and age

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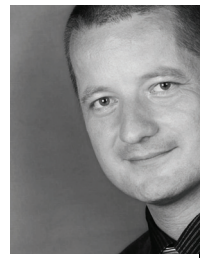
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### Abstract

The present study examines associations between adolescents' attitudes towards foreigners and their perceptions of the same attitudes among their parents, friends, and teachers. Questionnaire data from a sample of 518 students attending 6<sup>th</sup>, 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grade of German high-track schools addressed students' own attitudes and their reports on the reference persons in their proximal contexts. Analyses of individual profile correlations suggest strong correspondences between adolescents and their perceived contexts which slightly decrease depending on age. Processes of projection are discussed as a possible explanation of the strong associations observed as well as to the age-graded pattern of correlations.

*Key words:* Adolescence, ethnocentrism, false consensus

In times of growing globalization, intolerance and discrimination against ethnic minorities adversely affect the social climate. Still, negative attitudes towards foreigners have a considerable prevalence in western industrial democracies (e.g., *Eurobarometer* 1997). This is particularly true among young people. Surveys among adolescents and young adults (e.g., *Fend* 1994; *Torney-Purta et al.* 2001) suggest that, for instance, in Germany and Switzerland up to one third of the respondents in these age-groups hold negative views of foreigners. Within Germany, adolescents in the eastern part report more negative attitudes towards foreigners than in the western part (*Fischer* 2000; *Schneekloth* 2003)

In the context of German-speaking countries, the term foreigners refers to people living in the country who were not born there. This social category includes, for instance, refugees, immigrant workers, or asylum seekers as well as their families. Given the wide-spread use of the term as reflected in items employed by survey studies, we will also use it in the following.

Among scholars of civic development, concepts are widely accepted which consider young people's interactions with their social environment to be crucial in the formation of political orientations and attitudes towards foreigners (*Noack* 2001; *Sears* 1987; *Sherrod/Flanagan/Youniss* 2002). On the one hand, experiences with more distal contexts, namely of swift social change, are suggested to foster political intolerance (*Heitmeyer* 1992). On the other hand, interactions in more proximal contexts such as the family, peer relations, or the school are dis-

Intolerance and  
discrimination as  
social problems in  
German society

cussed as sources of civic orientations (*Coenders/Scheepers* 2003; *Emler/Frazer* 1999; *Silbiger* 1977; *Verba/Schlozmann/Burns* 2005). The present study follows the second line of enquiry examining relationships between adolescents' attitudes and attitudes they face in their proximal contexts. More specifically, we focus on parents', friends', and teachers' attitudes *as perceived by adolescents*. As their subjective views of people in their context, these perceptions should be more closely related to their own orientations than attitudes actually held by, for instance, teachers or friends. At the same time, adolescents' perceptions of the reference persons can be assumed to be affected by their own views. Associations are expected to be stronger than those typically reported in studies examining adolescents' orientations and actual attitudes in their contexts. Thus, our first research question concerns the correspondence of adolescents' self-reports on attitudes towards foreigners and their perceptions of people in their social environment.

Intergroup attitudes  
are shaped by  
experiences in  
proximal contexts

However, with growing socio-cognitive competences, representations of the context should become more accurate across the adolescent years and associations between young people's own orientations and perceived attitudes in the context can be assumed to decrease. Our second research question addresses age-specific variations of relationships between adolescents' attitudes and their perceptions of attitudes held by parents, friends, and teachers.

In the literature, there is considerable evidence suggesting an agreement of adolescents and their *parents* in the political domain. *Geißler* (1996) in Germany and *Jennings/Langton* (1969) as well as *Jennings* (1984) in the US and other countries report on similarities in preferences for political parties. *Landua/Sturzbecher/Welskopf* (2001) report findings that point to intolerant family backgrounds of adolescents who subscribe to ethnocentric attitudes. Correlational studies examining the actual correspondence of self reports on political attitudes by parents and their adolescent offspring have mostly yielded significant, albeit small to moderate associations (*Acock* 1984; *Geißler* 1996; *Noack* 2001; *Ter Bogt et al.*, 2001; *Vollebergh/Iedema/Raaijmakers* 2001). Correlations typically range between .15 and .50. However, *Aboud/Doyle* (1996) report non-significant correlations between childrens' and parents' racial attitudes. It should be noted that Aboud's findings refer to younger samples than adolescents as was the case in the other studies mentioned. Consequently, she also employed other measures appropriate for participants below high school age.

Perceived  
correspondence  
exceeds actual  
correspondence

Only rarely, studies have examined the covariation of adolescents' orientations and perceived parental orientations. In an examination of goal orientations, *Givvin* (2001) as well as *Acock/Bengtson* (1980) who studied attitudes found high correlations between adolescents' orientations and their reports on parents' views while the association was negligible when parents' own reports were considered.

Information on parents' actual attitudes was not available in the present study. However, in the light of the evidence reported before, the alleged adolescent-parent correspondence can be assumed to clearly exceed the actual one and may partly be due to processes of projection on the part of the adolescent observers (cf. *Westholm* 1999).

Even though it has been repeatedly pointed out that, for instance, a high percentage of ethnocentric adolescents are members of ethnocentrically oriented cliques (e.g., Landua *et al.* 2001), possible *peer* influences in processes of the formation of political attitudes during adolescence have only scarcely attracted scholarly interest. In studies examining associations between orientations held by adolescents and their friends, correlations were moderate concerning, for example, political interest (Oswald *et al.* 1999; Schmid 2006), and tolerance towards foreigners (Schmid *in press*, Smith/Roberts 1995). Drawing on Berndt (1992; Berndt/Keefe 1995) who discusses processes of projection that could affect adolescents' reports on their friends' attitudes, we can only speculate that the subjective attitudinal agreement of adolescents and their friends should be stronger than the actual one. However, evidence to substantiate this assumption is missing.

Correspondence of political attitudes within peer groups

Similarly, we know little concerning the extent to which *teachers* may affect students' political orientations. On the one hand, school is pointed out as a third major agent of civic socialization (Krampen/Ebel 1990; Niemi/Junn 1998; Torney-Purta *et al.* 2001). Given the considerable amount of hours which students spend in school, it seems plausible to assume that teachers exert at least some influence (Kandzora 1996). On the other hand, some scholars are rather sceptical concerning school influences on attitudes. In his review of research on civics classes, Ackermann (1996; see also Regenbogen 1998) casts doubt on effects on students' political orientations. Addressing teachers' influences on students' political attitudes, Fend (1991, 1994) qualifies direct effects as minimal. In her study of attitudinal transmission in the classroom, Bovier (1998) also did not identify direct effects. However, her analyses point to an interaction of teachers' attitudes and behavior in class to the extent that an incongruence of teachers' verbal tolerance and their authoritarian classroom rule fosters intolerant attitudes among their students.

School influences and correspondence with teachers

Summarizing, there seems to be a systematic agreement between adolescents' political attitudes and attitudes held by their parents and peers. Less is known concerning the orientations of adolescent students and their teachers. As far as evidence is available, it points to stronger associations between adolescents' attitudes and their perceptions of attitudes held by people in their proximal contexts as compared to the actual correspondence of self reports. We assume that these perceived attitudes only partly reflect actual attitudes of, for instance, parents. At the same time, projections of adolescents' own attitudes may contribute to their perceptions. Our assumption is in line with research on false consensus effects (e.g., Ross/Greene/House 1977) which showed that political attitudes are likely to be projected onto people in the social context if there is no unambiguous information concerning their actual orientations. The findings of recent projection research point into the same direction (Ames 2004; Aron/McLaughlin-Volpe 2001; Clement/Krueger 2002; Krueger 1998). As driving mechanisms cognitive heuristics (Tversky/ Kahnemann 1973), motivated safeguarding of the own attitudes by constructing social consensus (Crano 1983), as well as perceptive processes are discussed (Krueger 1998).

Projection processes as underlying mechanisms for discrepancy of actual and perceived correspondence

Importance of  
accurate perceptions  
for social learning  
processes

Taking a social learning perspective on the process of political development the perceived attitudes of significant others play an important role as mediator in attitude transmission processes. In order to accept or reject attitudes in social context an accurate perception has been shown to be a crucial condition (*Grusec/Kuczynski* 1997; *Knafo/Schwartz* 2003). To understand the antecedents of successful attitude transmission, conditions for accurate perception have to be identified. Projecting the own views of the world, might serve as a buffer against external influences.

Adolescents' age as  
proxy for social-  
cognitive  
competences and  
their effects on  
projection processes

If processes of projection do, indeed, affect adolescents' perceptions of, for example, parental attitudes, associations between these perceptions and actual attitudes should vary depending on age. As aspects of social cognition such as person perception and role-taking skills continue to develop well beyond puberty (*Boehnke et al.* 1992; *Cillessen/Bellmore* 2002; *Dettenborn/Boehnke* 1994; *Eisenberg et al.* 1995; *Eisenberg/Murphy/Shepard* 1997; *Lohaus/Larisch* 1993; *Silbereisen/Ahnert* 2002), subjective representations of others' orientations are likely to become more accurate during adolescence. By the same token, it can be assumed that the relative importance of others' actual orientations and adolescents' projections of own orientations in shaping these representations changes during the adolescent years with the latter becoming less influential. As a consequence, correlations between adolescents' orientations and their perception of, for example, their parents' orientations should decrease. However, we do not mean to suggest that processes of projection stop to impact young people's perceptions in late adolescence. Even parents' perceptions of their own adolescent children seem to be subject to projective processes (*Fingerle* 2000).

## Hypotheses

Concerning our first research question addressing associations between adolescents' attitudes towards foreigners and their perceptions of their parents', friends', and teachers' attitudes, we thus expect strong correlations exceeding the level of actual associations known from previous studies. Secondly, we expect an age-related decrease of the strength of associations between own attitudes and perceived attitudes of these partners in proximal contexts. Preliminary analyses will serve to examine variations in adolescents' attitudes depending on gender and age. In this respect, we can draw on a more extensive literature basis. Various studies suggest more tolerant orientations among female adolescents as compared to male adolescents (e.g., *Hinsch/Langner* 1997; *Hopf* 1991; *Noack* 2001; *Quesel* 1997; *Ströhlein/Wellmer* 1995; *Torney-Purta et al.* 2001). At the same time, absolute levels of attitudes towards foreigners can be assumed to become more positive with age (*Aboud* 1993; *Doyle/Aboud* 1995; *Quesel* 1997; *Wainryb et al.* 1998).

## Method

The study is based on data of more extensive research including roughly 1000 adolescents attending the different tracks of public schools in two Eastern states of Germany (Thüringen, Sachsen). Private schools were not considered due to their low share among German schools (6.2 percent). Given our interest in age-graded variations, analyses in the present study are confined to students of high-track schools, that is, the only school track attended up until grade 12. This is the college-bound track which accommodates about 23 percent (*Statistisches Bundesamt* 2002) of a cohort.

We will report on the similarity of own attitudes towards foreigners and perceived attitudes of significant others employing intraindividual correlations (within-subject profile correlation) as a measure of similarity of attitudes. Compared to sample based Pearson correlations these individual profile correlation has two major advantages. First, the profile information contributes to the similarity measure that would be lost calculating the mean of the items in a scale. Secondly, dyadic similarity can be depicted in one value for each student. Thus, the individual information can be kept, as compared to sample based correlations.

Dyadic measure of correspondence

## Participants

A total of 518 students attending 6<sup>th</sup>, 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grade of high-track public schools were included in the present study. Mean ages of participants were 11.33 years (sixth grade), 13.4 years (eighth grade), 15.47 (tenth grade) and 17.54 years (twelfth grade), respectively (range: 10 to 19 years). The share of students attending the four grade levels was about even. Slightly more female students (57.1 percent) than male students participated in the study.

## Measures

As part of a standardized questionnaire assessment, 20 items adapted from earlier research (*Kracke/Held* 1994; *Waldzus et al.* 2003) tapped students' positive (e.g., „I would like to know more foreigners.") and negative (e.g., „Foreigners take away our jobs.") attitudes towards foreigners. The two factor structure was implied by principal component analysis (results are not shown).

Students were asked to judge these statements employing six-point rating scales (1=„completely false"; 6= „completely true"). Perceptions of the attitudes of fathers, mothers, best friends, and teachers were assessed separately for each reference person. Cronbach's alphas range between .71 and .87. The intercorrelations and internal consistencies of the scales are depicted in Table 1.

*Table 1.* Intercorrelations and Cronbach's Alphas of attitude scales

	1	2	3	4	5	6	7	8	9	10	11	12
1. Self Positive	.86											
2. Self Negative	-.52**	.87										
3. Mother Positive	.66**	-.33**	.83									
4. Mother Negative	-.36**	.87**	-.35**	.82								
5. Father Positive	.59**	-.28**	.78**	-.29**	.84							
6. Father Negative	-.34**	.82**	-.33**	.91**	-.37**	.81						
7. Friend Positive	.79**	-.39**	.59**	-.26**	.52**	-.26**	.87					
8. Friend Negative	-.45**	.86**	-.29**	.79**	-.28**	.75**	-.47**	.85				
9. Teacher1 <sup>a</sup> Positive	.43**	-.10*	.43**	-.07	.40**	-.07	.47**	-.10*	.80			
10. Teacher1 <sup>a</sup> Negative	-.28**	.74**	-.23**	.81**	-.19**	.76**	-.23**	.70**	-.18**	.79		
11. Teacher2 <sup>a</sup> Positive	-.05	.21**	.10*	.13**	.08	.07	.02	.20**	.35**	.10*	.83	
12. Teacher2 <sup>a</sup> Negative	-.02	.40**	-.08	.56**	-.12**	.54**	.01	.41**	.02	.66**	-.16**	.71

a Teacher 1 refers to the most preferred teacher and teacher 2 to the least preferred teacher.

Note. \*  $p < .05$ ; \*\*  $p < .01$ ; Cronbach's Alphas are depicted in the diagonal

In the case of teachers, students were asked to report on their most preferred teacher and their least preferred teacher in order to capture varying degrees of closeness. With regard to each of the five reference persons, students rated the same 20 items used to measure their own attitudes. Adolescents were contacted through the schools they attended and completed questionnaires in class.

## Results

First, we will report on mean levels of the attitudes as a function of sex and grade to give a rough overview of attitudes towards foreigners held by adolescents on a descriptive level. Second, our main analysis is concerned with individual profile similarities between own and perceived others' attitudes.

### Descriptive findings

Boys reported more negative and less positive attitudes towards foreigners than girls.

For our preliminary analyses, all items denoting positive attitudes and all items tapping negative attitudes, respectively, were aggregated as suggested by a principal components analysis and subjected to a MANOVA (for means and standard deviations see Table 2). Adolescents' self-reported positive and negative attitudes, respectively, were specified as within-subjects factor, and sex and grade were included as between-subjects factors. The analysis yielded significant effects of the within subject factor ( $F(1,509) = 17.52, p < .001$ ), sex, ( $F(1,509) = 52.32, p < .001$ ), and grade level ( $F(3,509) = 5.26, p < .01$ ).



*Table 2.* Means, standard deviations and Cronbach's alphas of the adolescent reported attitude scales

	Self reported attitudes towards foreigners	
	positive	negative
Male	3.45 (.92)	3.71 (1.17)
Female	4.07 (.87)	3.22 (1.03)
6th grade	3.58 (.92)	3.55 (1.10)
8th grade	3.66 (.95)	3.47 (1.09)
10th grade	3.91 (.91)	3.49 (1.18)
12th grade	4.14 (.91)	3.13 (1.06)
Total	3.80 (.94)	3.43 (1.12)

Note.

a Teacher 1 refers to the most preferred teacher and teacher 2 to the least preferred teacher.

Generally the agreement for positive items was higher as compared to the items on negative attitudes. In line with our hypotheses, our data point to more positive views and less negative views among female students as compared to their male age-mates. With both scales, differences roughly equaled half a standard deviation. At the same time, grade-specific differences in the attitudes of students suggest an increase of tolerance with age.

### Similarity of own attitudes and perceived attitudes of reference persons

To assess the perceived similarity between the attitudes of the participants and the people in their social environment, we followed a procedure suggested by Grevel/Wentura (2003; see also Otten/Wentura 2001) which is based on individual profile correlations (within-subject correlations). For each subject, *z*-standardized ratings of own attitudes and *z*-standardized ratings concerning the perceived attitude of a given reference person were correlated. Standardization was done for the following reason: If a list of items consists of some easy-to-reject attitudinal propositions (i.e., items with an overall high mean) and some easy-to-negate propositions (i.e., items with an overall low mean), participants' ratings concerning their own attitudes as well as their ratings concerning perceived attitudes of others will reflect these differences, resulting in positive intraindividual correlations that correctly reflect item characteristics. Therefore, deviations from the *average rating* (i.e., *z*-scores) for own attitudes and perceived attitudes were used to calculate *intraindividual* correlation coefficients. This can be considered a conservative measure of perceived self-other similarity: For example, calculating intra-pair correlations of participants' *z*-standardized attitude ratings for randomly sampled pairs of participants will yield a zero intra-pair correlation on average. In fact, even if random pairing is restricted to own sex and grade, the average intra-pair correlations amounted to .02 to .13 for the sex  $\times$  grade samples. That is, the actual similarity of attitudes for randomly assigned adolescents of same sex and grade is negligible if we use *z*-standardized values and the resulting similarity measures can be interpreted as

Within-dyad profile correlation as correspondence measure: student's self report  $\times$  perceptions of reference persons

perceived attitudinal concordance and cannot be inferred on technical reasons such as parallel item difficulty on both compared profiles.

Thus, the respective 20 items were not aggregated but correlations were calculated across the corresponding (self – other) items. For each participant, the procedure yields a within-person correlation between the own and a given reference person's perspective. Additionally to parents, friends and teachers a sex  $\times$  grade random sample from the same classroom was selected to arrive at an objective attitude profile as a standard of comparison. The last correlation, thus, depicted the profile similarity of each student and a same-sex classmate. Since these correlation did not significantly differed from zero they were not included in further analyses.

For inferential statistics, the five remaining intraindividual correlations obtained for each participant that represent the similarities of the response profiles between adolescents' self-descriptions and the assumed responses of the respective reference person were Fisher-Z transformed. Table 3 shows the mean Fisher-Z coefficients, associated measures of distribution, and the retransformed means (i.e., correlation values that are restricted to the conventional -1 to +1 range).

*Table 3.* Means and distribution parameters of the similarity measures including adolescents' attitudes towards foreigners and perceived attitudes of reference persons

		Mother	Father	Friend	Teacher 1 <sup>c</sup>	Teacher 2 <sup>c</sup>	Total
6th grade	$M^a$	1.24	1.20	1.24	.83	.58	1.01
	$SD$	.49	.47	.66	.38	.50	.38
	$r^b$	.85	.83	.85	.68	.53	.77
8th grade	$M^a$	.99	.89	1.13	.60	.24	.77
	$SD$	.54	.57	.68	.43	.45	.39
	$r^b$	.76	.71	.81	.54	.24	.65
10th grade	$M^a$	.92	.86	1.13	.55	.20	.73
	$SD$	.48	.48	.66	.47	.53	.34
	$r^b$	.73	.70	.81	.51	.20	.63
12th grade	$M^a$	.90	.78	1.12	.67	.36	.77
	$SD$	.54	.54	.69	.45	.44	.38
	$r^b$	.71	.65	.81	.58	.34	.55
Male	$M^a$	1.08	1.02	1.18	.62	.32	.84
	$SD$	.57	.56	.69	.46	.52	.39
	$r^b$	.79	.77	.83	.55	.31	.69
Female	$M^a$	.96	.86	1.13	.69	.35	.80
	$SD$	.49	.51	.66	.44	.49	.38
	$r^b$	.74	.70	.81	.60	.34	.66
Total	$M^a$	1.01	.93	1.15	.66	.33	.82
	$SD$	.53	.54	.67	.45	.50	.38
	$r^b$	.77	.73	.82	.58	.32	.67

*Note.*

- a Means of Fisher-Z transformed intraindividual correlations coefficients (values larger than one are possible).
- b Retransformed mean (i.e., a priori range -1 to +1).
- c Teacher 1 refers to the most preferred teacher and teacher 2 to the least preferred teacher.



Mean profile correlations between adolescents' own attitudes and the perceived attitudes of the five reference persons are substantial and deviate significantly from zero (all  $t(505-516) > 15.20$ ,  $p < .001$ ). The highest similarity was observed with adolescents' best friend as reference person, followed by similarities with mother and father. Associations are somewhat lower concerning the teacher who students preferred most. It may not come as a surprise that agreement was smallest with the least preferred teacher. Even in this constellation, however, the association is significant.

Perceived similarity maximal for friends, followed by mother, father, favorite and least liked teacher

A multivariate analysis of variance with reference person (five reference persons) as within-subjects factor, sex, and grade as between-subjects factors, and Fisher-Z-transformed profile correlations as dependent variables yielded significant main effects of reference person ( $F(4,487) = 208.43$ ,  $p < .001$ ) as well as of grade ( $F(3,490) = 16.25$ ,  $p < .001$ ). There was no significant sex main effect. The main effect of reference person points to substantial differences in similarities as described above. All means were significantly different from one another (all (absolute)  $t(498-513) > 4.48$ ,  $p < .001$ ). A test of polynomial contrasts following up the main effect of grade yielded significant linear and quadratic trends ( $F(1, 490) = 26.97$ ,  $p < .001$ , and  $F(1, 490) = 18.28$ ,  $p < .001$ , respectively) which reflect the fact that overall similarity is most pronounced for the 6<sup>th</sup> grade, is smaller among 10<sup>th</sup> grade students, and is slightly higher again in 12<sup>th</sup> grade. However, a significant reference person  $\times$  grade interaction ( $F(12,1467) = 2.29$ ,  $p < .01$ ) suggests a qualification of main effects. Tests of polynomial contrasts revealed that the interaction results from differences between patterns observed with best friends, on the one hand, and the other reference persons, on the other hand. For mother, father, most preferred teacher, and least preferred teacher as reference persons, significant linear trends (all  $F(1,494-505) > 10.64$ ,  $p < .01$ ) indicate decreasing similarity as adolescents get older<sup>1</sup>. For best friend as target person, similarities did not vary depending on grade ( $F(1,505) < 1$ , ns). Table 3 shows the similarity coefficients as a function of sex and grade.

Perceived similarity maximal for younger students as compared to older students

Finally, analyses yielded a significant reference person  $\times$  sex interaction ( $F(4,487) = 5.90$ ,  $p < .001$ ). This effect results from higher profile similarities concerning parents (in contrast to the other persons) among male students as compared to female students (mother:  $t(511) = 2.39$ ,  $p < .05$ ; father:  $t(500) = 3.48$ ,  $p < .01$ ).

Higher perceived similarity with parents reported by boys than by girls.

## Discussion

The aim of the present study was to investigate adolescents' attitudes towards foreigners and attitudes which they perceive in their social contexts, namely among their parents, friends, and teachers as well as their development during adolescence. The main focus was on similarities between the response profiles of the student, on the one hand, and the profiles of the perceived attitudes of the reference persons considered, on the other hand.

In line with our hypotheses, the analyses of the profile similarities yielded very high correlations for those reference persons who were involved in close

Differences between  
actual and perceived  
correspondence

relations with the students, namely parents and best friends, and moderate correlations for teachers as more distal reference persons. Taken together, the absolute size of the profile correlations of concern, non-significant random paired correlations, and findings from other studies showing clearly lower similarities between adolescents' political attitudes and actual attitudes of parents (e.g., Acock 1984; Noack 2001; Ter Bogt et al. 2001; Vollebergh/Iedema/Raaijmakers 2001) or peers (e.g., Oswald et al 1999, Smith/Roberts 1995) suggest that the high correlations we find cannot be – solely – seen as a result of contextual influences. In fact, the correlations between adolescents' attitudes and their perceptions of close reference persons that were observed in our study correspond to shared variances of 50 percent to over 70 percent while shared variances based on actual attitudes of other people in close relations as examined in previous research typically range around 10 percent and do not exceed 25 percent.

Differences due to  
projection processes  
/false consensus  
effects

Against this backdrop, we suggest to interpret our findings to at least partly reflect processes of projection of the youth's own views on their social context (Krueger 1998; Westholm 1999). We assume that the projection processes can be understood drawing on theorizing concerning the *false consensus effect* (Ross/Green/House 1977). Marks/Miller (1987) discuss perceived social support on the part of the social environment as potentially motivating factor. With attitudes that conflict with societal norms, in particular, such as intolerant views on foreigners investigated in our study, the assumed agreement of oneself and people in the context leads to perceptions of social support for one's own views and could, hence, serve as reinforcement. However, the assumption of projective processes could not directly be tested because the actual rating of the reference persons are lacking.

Projections and  
social comparison  
research

Our line of argumentation does not necessarily imply that adolescents retrieve prestored beliefs about others' attitudes. Rather, we consider the process of giving an estimate of others' attitudes as a judgmental process that is built largely on two components: an initial hypothesis about self-other similarity that is followed by a positive test-strategy (see Mussweiler 2003). The probability of starting on the basis of a similarity hypothesis (versus a dissimilarity hypothesis) depends on an initial holistic similarity assessment based on a set of easy accessible information such as sex, group membership, closeness etc. (Mussweiler 2003).

Projections and  
reference persons

In our study, we were able to show that the magnitude of the profile correlations varied with reference person. The assumed similarity was identified as being maximal for the most intimate others (friend, followed by mother and father, then most and least preferred teacher). This pattern can be interpreted as a function of perceived self-other similarity. Among the reference persons considered, best friends form the clearest example of perceived self-other similarity followed by parents. Likewise, lower similarity can be expected for teachers, even for the most preferred ones. However, correspondences do not decrease from 8<sup>th</sup> to 12<sup>th</sup> grade for the most preferred teacher while they do in the case of parents. Lowest associations were found for the least preferred teacher which could be attributed to an increasing probability of starting with a dissimilarity hypothesis.

The pattern of findings is also consistent with research showing that projection tendencies are stronger concerning ingroup members or more similar reference groups as compared to members of outgroups (*Clement/Krueger* 2002; *Holtz* 2003; *Holtz/Miller* 1985). The authors conclude, that the possibility to project the own position on close contexts leads to a maximization of felt consensus and as a result to a secure base for adolescents' attitudes.

In line with our expectations, the level of intolerance towards foreigners as well as the measures of the attitude similarity decreased with growing age. Older students showed more positive orientations toward foreigners and lower levels of agreement suggest more differentiated views on attitudes in their social contexts. We see age-graded differences in socio-cognitive development as the basis for this pattern of findings. Evidence pointing to negative associations between xenophobic attitudes and cognitive complexity, flexibility, and socio moral reasoning (*Emler* 2002; *Sidanius* 1985) corroborate our interpretation. In a study of deviance in adolescents, *Dettenborn/Boehnke* (1994) were able to show a relationship between problem behavior and very simple ways of structuring the social context. These oversimplifications decline with age which the authors put down to socio cognitive development. The impact of school on this development and, thus, indirectly on tolerance remains unclear. However, there is reason to assume that school may, indeed, affect students' tolerance by fostering their socio-cognitive development (*Emler/Frazer* 1999; *Gruehn/Schnabel* 2001).

Age-graded patterns of projections and social-cognitive development

Interpreting the results, limitations of our study have to be noted. A major caveat results from the cross-sectional design which does not allow specifying the directions of the assumed effects, namely processes of projection, in our analyses. Likewise, data on the real attitudes of the reference persons in adolescents' social contexts would have provided a more conclusive perspective on our interpretations. Lacking such data, we had to compare our findings with those from other studies which included direct assessments of attitudes in adolescents' social contexts. Unfortunately, we could not draw on any earlier research providing the relevant information on teachers.

We acknowledge that the interpretation we suggested is more speculative concerning the findings for teachers as reference persons than for parents and friends. Given the lack of data on actual similarities, assumed similarities as well as the difference between the perceived self-other similarities concerning least-liked and most-liked teachers could also be explained by selection processes. The criterion of selecting the least and the most preferred teacher may have been perceived attitude similarity, so that the differences in the correlations reflect not the similarity assessment processes but only the selection criterion. The same might be true for the high correlations regarding best friends. It has been shown that actual similarity between friends is the result of selection and socialization processes (*Kandel* 1986; *Schmid* 2006; *Silbiger* 1977). The same line of argument might hold for perceived similarity, as well. However, the extent to which the reported correlations exceed actual correlation, reported in the literature, implies projection processes.

Limitations

Furthermore, our sample is confined to students from two East German federal states, namely Thuringia and Saxony, with a low percentage of foreigners

(Thuringia: 2.0 percent; Saxony: 2.8 percent). Here less direct contact possibilities are provided, and direct context influences may be stronger, which would be depicted in these high correlations.

#### Conclusion

Summarizing our results, we could show that students perceive a high similarity between their attitudes towards foreigners and reference persons in their context. The convergence increases with social closeness of the person and age. The extent of the perceived similarity exceeds the actual (compared with other studies) we interpreted as safeguarding the own attitudes by constructing social support.

Despite the limitations of the study, we see practical implications. If adolescents do project their own views on people in their context, it seems to be important for people in adolescents' context such as family and school to be quite clear about their attitudes. Little ambiguity about others' attitudes makes it more difficult to receive social support for own views by projecting onto the others. Following this idea, it would be a challenge for schools to provide a differentiated representation of attitude that can be found in a pluralistic society. To this aim, a certain shift of focus from transmitting knowledge to transmitting the diversity of political orientations might be necessary. Indeed, there is some evidence for classroom instruction that explicitly addresses conflicting views on social issues to foster students' social attitudes (e.g., *Flanagan/Gill/Gallay*, submitted; *Niemi/Chapman* 1998).

#### Practical implications

We have also suggested that age graded differences of the students' attitudes towards foreigners are likely to result from advances in socio-cognitive development. School projects that implemented solutions for interpersonal or intergroup conflicts, and were oriented towards democratic and justice principles, showed a stimulation of the socio cognitive development (*Oser* 1998). It may be an illusion to try to make schools truly *just communities* (*Kohlberg* 1986), but it seems possible to integrate some aspects of this concept in to school's everyday life and, hence, try to indirectly affect students' tolerance.

#### Outlook on further research

Further research is needed to identify projection processes in the construction of the perception of attitudes in the context. Firstly, the actual views of the reference persons must be included in future studies to directly examine *false* consensus effects or projections which we see as the aspect of the assumed similarity not based on actual agreement. Secondly, longitudinal data would allow specifying the directions of effects of reference persons on the adolescents and, thus, could help to disentangle perceptions and projections in the processes of concern.

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## Footnotes

- 1 We adopted an alpha-error level of .01 for the a posteriori analyses following the significant type of reference person x grade interaction to account for multiple testing. Doing this, for the teachers (but not for mother, father, and best friend) as reference person, significant quadratic trends emerged as well,  $F(502-505) > 17.62$ ,  $p < .001$ , reflecting the slight increase of similarity from 10<sup>th</sup> to 12<sup>th</sup> grade.

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