

## Role of Perceived Importance in Intergroup Contact

Rolf van Dick  
Aston University

Ulrich Wagner  
Philipps-Universität

Thomas F. Pettigrew  
University of California, Santa Cruz

Oliver Christ  
Philipps-Universität

Carina Wolf  
University of Bielefeld

Thomas Petzel  
University of Lüneburg

Vanessa Smith Castro  
University of Costa Rica

James S. Jackson  
University of Michigan

Furthering G. W. Allport's (1954) contentions for optimal contact, the authors introduce a new construct: the *perceived importance* of contact. They propose that perceived importance is the best proximal predictor of contact's reduction of prejudice. If individuals have opportunities for contact at work or in the neighborhood, their chances to have intergroup acquaintances and friends increase. Intergroup contact among acquaintances and friends can be perceived as more or less important, which in turn determines intergroup evaluations. A 1st study shows that the new measure of perceived importance is indeed distinct from established quantity and quality indicators. The results are cross-validated in a 2nd study that also sheds light on the meaning of importance. In 3rd and 4th studies, structural equation analyses and a meta-analysis support the hypotheses.

The present article introduces a new variable in the research on intergroup relations—the subjectively *perceived importance* of intergroup contact. The contact hypothesis maintains that bringing groups into contact under favorable conditions is an effective way to reduce intergroup tension, anxiety, hostility, and prejudice. Gordon Allport (1954) formulated the basic principles of the contact hypothesis in his famous *The Nature of Prejudice*. He proposed that there is no simple relationship between contact and out-group liking and evaluation but that the effect depends on the conditions of the contact situation. Four optimal contact conditions

are held to be crucial for the reduction of prejudice (Allport, 1954; Pettigrew, 1997, 1998): equal status, common goals, cooperation instead of competition, and support of authorities and institutions. Intergroup friendship is regarded as an ideal contact experience that is likely to meet all four conditions and reduce intergroup prejudice (Pettigrew, 1997).

Since its original formulation, literally hundreds of studies have tested the predictions of the contact hypothesis in various fields of application. Summarizing the results of this vast research, contact is especially likely to reduce intergroup prejudice if it takes place

Rolf van Dick, Aston Business School, Aston University, Birmingham, United Kingdom; Ulrich Wagner and Oliver Christ, Department of Psychology, Philipps-Universität, Marburg, Germany; Thomas F. Pettigrew, Department of Psychology, University of California, Santa Cruz; Carina Wolf, Institute for Interdisciplinary Research on Conflict and Violence, University of Bielefeld, Bielefeld, Germany; Thomas Petzel, Department of Psychology, University of Lüneburg, Lüneburg, Germany; Vanessa Smith Castro, Department of Psychology, University of Costa Rica, San Jose, Costa Rica; James S. Jackson, Department of Psychology, University of Michigan.

This research was supported by Deutsche Forschungsgemeinschaft Grant MA 153/85-1 to Thomas F. Pettigrew. Data collection was

supported by Friedrich Ebert Foundation grants to Ulrich Wagner and Vanessa Smith Castro. Portions of this research have been presented at the European Association of Experimental Social Psychology (EAESP)/Society for the Psychological Study of Social Issues Small Group Meeting on Prejudice and Racism, Granada, Spain, May 2000, and at the 13th General Meeting of the EAESP, San Sebastian, Spain, June 2002. We are grateful to Lawrence Bobo, Nyla Branscombe, Anja Eller, and Thomas Kessler for their comments on earlier versions of this article.

Correspondence concerning this article should be addressed to Rolf van Dick, Aston Business School, Aston University, Birmingham, B4 7ET, United Kingdom. E-mail: r.vandick@aston.ac.uk

under favorable conditions (Hewstone & Brown, 1986; Pettigrew, 1998). In this vein, Pettigrew and Tropp (2004) conducted a meta-analysis with 515 studies, 714 independent samples, and 250,000 subjects. The meta-analysis revealed a highly significant mean effect size ( $r = -.23$ ). Additionally, Pettigrew and Tropp found extreme heterogeneity among the analyzed studies that is explained in part by Allport's (1954) original conditions. Hence, those studies that met most of Allport's key conditions show substantially higher effect sizes than the ones that do not. Thus, his conditions prove to be facilitating though not essential.

### Contact Variables

Although the optimal objective conditions for contact are well known, the subjective perception of contact is rarely considered in empirical research. Research has considered the role of intergroup friendship (Cook, 1984; Herek & Capitanio, 1996; Oliner & Oliner, 1988; Pettigrew, 1997), but the subjectively perceived quality of these friendships has not been ascertained. Several studies have differentiated between quantity and quality of contact. Islam and Hewstone (1993) developed a five-item scale to tap qualitative aspects of contact (equality of status, pleasantness, whether voluntary or not, superficial vs. intimate contact, and competitiveness vs. cooperativeness). In an investigation of Hindu and Muslim students in Bangladesh, Islam and Hewstone found a substantially greater impact of quality than of quantity of contact between the two groups on intergroup anxiety and attitudes toward the out-group. Later work has supported the Bangladesh results (Brown, Maras, Masser, Vivian, & Hewstone, 2001; Brown, Vivian, & Hewstone, 1999, Study 2; Greenland & Brown, 1999, Study 1; Stephan, Diaz-Loving, & Duran, 2000). In a study of 421 Finnish adults, participants were asked about contact with immigrants and refugees (Liebkind, Haaramo, & Jasinskaja-Lahti, 2000). If the participants reported at least some contact, they also indicated "how well they knew the specific immigrant they knew best" (p. 175). Only those Finns who knew an immigrant intimately were significantly more positive in their intergroup attitudes.

However, no study known to us has measured *perceived importance* or personal relevance of contact. To ask for an individual's perception of the importance of contact is a simple and direct way to determine the value and personal significance of the contact. Theoretically, we adopt a functionalist point of view for understanding importance. Intergroup contact can be seen as important in itself. Hence, the respondent may view intergroup contact experiences and competences as a relevant part of modern life. In most cases, however, the evaluation of a certain intergroup contact can be seen as important if the encounter is instrumental for the attainment of a specific goal. This goal may be material (Edwards, 1955), as with the realization of a goal through joint intergroup efforts (Sherif, 1966), or the intergroup contact may be perceived as an encounter that contributes to personality- and identity-related attitudes and values. For example, one may wish to develop particular intergroup abilities and experiences that could help in future encounters (Pettigrew, 1997). Thus, seeing intergroup contact as important means that the intergroup encounter helps to achieve a personal goal (Tetlock, 2002). Or, following Allport (1954), we predict that superficial contact experiences that are personally unimportant—that is, that have no value in themselves

and are not instrumental in reaching a valued goal—will not contribute to a significant reduction of ethnic prejudice.

Theoretically, both positively and negatively evaluated encounters can contribute to an overall evaluation of encounters as being important. Empirically, however, we expect that intergroup encounters described as important are, from the respondents' perspective, typically those considered as positive experiences. We do so because we focus on intergroup encounters among friends or acquaintances, rather than among strangers, as proximal contact encounters. Although not impossible, it is unlikely that individuals will continuously interact in intergroup relationships that they regard as negative. We also predict that group members who evaluate their intergroup contacts as important are less prejudiced than group members who do not consider such contact as important.

There are several theoretical arguments that lead us to focus on perceived importance as the crucial factor in the contact-prejudice relationship. First of all, attitude research has repeatedly found that important beliefs shape attitude formation (Ajzen, 2001). Important beliefs are more accessible and likely to be activated spontaneously, and strong attitudes based on these beliefs, in turn, are more stable over time, more likely to influence behavior, and less susceptible to persuasion and change. Krosnick and his colleagues (Boninger, Krosnick, & Berent, 1995; Krosnick, 1988a, 1988b, 1989) have consistently shown that attitudes that people consider important are less likely to be changed and more closely related to actual behavior. Ajzen (2001) also pointed to the "personal relevance of information" (p. 37) that determines the strength of attitudes.

Similar evidence for our focus on importance as a crucial factor stems from research on persuasion and attitude change. Petty and Cacioppo's (1986) elaboration likelihood model and supporting research specifies two ways of processing information (Petty, Cacioppo, & Goldman, 1981). For strong arguments, using the central route with its deep and elaborated processing leads to more persuasion and attitude change than the peripheral route with its more superficial processing. Petty and Cacioppo's model sees the two routes as ordered along a continuum, and they proposed personal relevance of the topic as the crucial factor that determines where on this continuum arguments are processed. Topics of higher personal relevance are more likely to be processed centrally and thus lead to enduring and stable attitude change. In our context, the information involved in an encounter with a member of another ethnic group should lead to more positive attitudes and reductions in prejudice the more the information is processed in a deep and elaborated way. This central processing is more likely when the encounter is perceived as important and of personal relevance.

However, our model differs from Ajzen's (2001), Krosnick's (1988a, 1988b, 1989), and Petty and Cacioppo's (1986) in two respects. First, instead of focusing on the importance of attitudes, we stress the importance of an experience—namely, intergroup contact. Perceiving actual contact experiences as more or less important is driven, much like attitudes, by values, norms, and preferences. In addition, it is also a cognitive and affective evaluation of very concrete situations in the past and their representations in one's memory. Second, the other models consider attitude importance as a moderator. In our model, importance is held to be a mediating variable (for the differentiation between moderator

and mediator, see Baron & Kenny, 1986). That is, perceived importance mediates between more distal contact variables, such as intergroup friendships, and prejudice. Intergroup friendships are thought to determine partly the perceived importance of contact, and this is why intergroup friendship strongly reduces prejudice. This perspective corresponds well with Allport's (1954, p. 263) contention that it is critical that contact is regarded as important and intimate rather than trivial and transient.

Another theoretical argument for the role of importance in intergroup contact can be gleaned from Aron's work on the self-expansion model (Aron & McLaughlin-Volpe, 2002). This model assumes self-expansion as a basic human motive and proposes the integration of close relationships into the self as one way to achieve this expansion. Having close relationships thus serves the goal of extending one's self-concept; such extension aims to gain resources and other positive outcomes through the incorporation of the other's resources, identities, and perspectives. Aron and McLaughlin-Volpe (1992) explicitly described the inclusion of out-group members into the self and stated that this inclusion will reduce out-group prejudice. If the other becomes a friend and through self-expansion a part of oneself, the other person will receive benefits that are usually awarded only to in-group members. That is, they are treated with empathy and allowed to share resources. Related to our discussion of contact's importance, one could expect that the more important one evaluates encounters with out-group members, the more likely is the contact's inclusion in one's self-concept. Or, the other way around, relationships with out-group members become more important as they become incorporated into one's self-concept and thus contribute to enhanced feelings of self-worth and self-esteem. If my self-concept, for instance, includes descriptions of myself as a curious person, open to new experiences and cultures, the inclusion of out-group members into my self-concept will be considered important, because it strengthens and expands this self-concept.

Empirical support for this line of reasoning stems from McLaughlin-Volpe, Aron, Wright, and Reis (2000). They found that prejudice toward out-groups was not strongly predicted by the participants' number of out-group acquaintances or the amount of interaction with them. Out-group prejudice was, however, predicted by the extent to which participants included out-group friends and acquaintances into the self as measured with the Inclusion of Other in the Self Scale (Aron, Aron, & Smollan, 1992).

Finally, Omoto and Borgida (1988) experimentally tested the impact of high versus low relationship involvement. As we conceptualize it, this manipulation can be considered as a proxy for importance. White male participants who expected a series of dates (high involvement) with a Black female partner showed particularly warm and friendly behavior toward the partner compared with participants who expected only a brief interaction (low involvement). Omoto and Borgida concluded that involvement generally is high in situations of outcome dependency. This view is consistent with our formulation of out-group friendships serving specific goals.

To summarize, we consider that the evaluation of contact experiences as important shapes contact's effects on an individual's attitudes toward the out-group.

## The Place of Importance in the Causal Order of Contact Opportunities

Elaborating a critical insight of Festinger and Kelley (1951), Wagner, Hewstone, and Machleit (1989) argued that there is a critical difference in impact between distal contact opportunities (e.g., in the neighborhood or at school) and actual contact in people's circles of friends and acquaintances. Distal opportunities are necessary conditions for proximal contact, but they do not in themselves ensure actual contact or reductions in intergroup prejudice. Hence, Wagner et al. (1989) proposed a causal order of distal contact opportunities in the neighborhood and the classroom that influence the "real use" of contact (e.g., having foreign friends among minority group members). These proximal contact indicators should (negatively) predict antipathy against out-group members.

In their correlational study of 15-year-old German and Turkish students, Wagner et al. (1989) supported these predictions for the German sample. Wagner, van Dick, Pettigrew, and Christ (2003) tested the causal order in the context of differences in ethnic prejudice between Germans living in East versus West Germany. The proposed causal order held in three large samples: Larger contact opportunities in the western parts of Germany led to higher distal contact experiences in the classroom and at work, and this in turn predicted proximal contact. In a similar vein, DuBois and Hirsch (1990) found greater likelihood of having intergroup friendships for children living in a neighborhood with more other-race children or attending schools with other-race children. Interethnic friendship in turn influences intergroup attitudes positively (see also Phinney, Ferguson, & Tate, 1997).

Thus, we predict on the basis of this past work that perceived importance will act as a mediating variable between intergroup friendships and out-group evaluations. Intergroup contact incorporating intergroup friendship usually serves personal goals; thus, we consider importance to be the most relevant proximal variable influencing out-group prejudice. Wagner et al. (2003) found that perceived importance acted as a mediator in the causal order in one of their studies (Study 3). However, the analyses in Wagner et al. were conducted in the context of East-West German prejudice only and thus are limited in scope. The present study broadens the test with samples from other countries and a variety of out-group targets.

## Aims and Hypotheses

The overall aim of the following empirical studies was twofold. First, we wanted to investigate the meaning of the newly introduced concept of importance and to distinguish it from the established concepts of quantity and quality of contact. Second, we wanted to test whether importance serves as a mediator in the relationship between contact and prejudice. More specifically, we tested the following hypotheses:

*Hypothesis 1:* Intergroup contact perceived as being of important personal relevance is an encounter that helps to achieve a personal goal.

*Hypothesis 2:* Intergroup contacts perceived as important are primarily positive intergroup contacts.

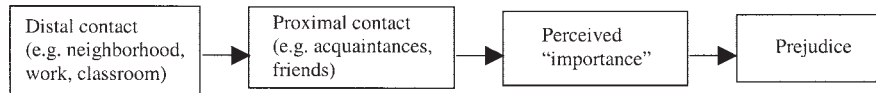


Figure 1. Hypothesized causal order of the contact-prejudice relation.

*Hypothesis 3:* Perceived importance can be clearly distinguished from both quantity and quality of contact measures.

*Hypothesis 4:* Following Wagner et al. (1989), we predict an underlying causal order of the different contact components as shown in Figure 1. As the final step, perceived importance of intergroup contact mediates contact's effects on intergroup prejudice.

We tested Hypotheses 1–3 in Study 1, and we replicated these results in Study 2. Study 3 tested Hypothesis 4, and these results were replicated in a fourth study. To test Hypothesis 4, we used a multisample approach with different dependent measures, diverse target groups of prejudice, and minority as well as majority group respondents.

### Study 1

Our first study tested whether the newly created measure of subjectively perceived importance of intergroup contact (a) covaries with a description of situations in which intergroup contact is a goal in itself or related to a personally relevant goal, (b) measures important positive intergroup encounters, and (c) differs from other quantity and quality measures of contact. We included an experimental manipulation in this study. Following McGuire and McGuire (1996), we made participants think of either positive or negative aspects of their contact experiences to test Hypothesis 2.

### Method

Two hundred ninety-two German undergraduates (74%) and graduates (26%) of psychology (46%) and several other majors (e.g., education, law, and sociology) completed a questionnaire for course credit in psychology courses. Women made up 82% of the sample, and the participants' average age was 24.14 years ( $SD = 5.84$ ). The cover story concerned the evaluation of different instruments to measure general attitudes, so we used several filler items regarding environmental and social values, sexual orientation, and religious affiliation before the relevant items (Wolf, 2002).

Appendix A lists the items that tested Hypothesis 3. A single item assessed importance of contact: "How important are your contacts with ethnic minority group members to you personally?" We asked this question to the German respondents, of course, in the German language. Hence, it is pertinent to know that the German word *wichtig* can be translated as "important," "relevant," or both. Participants indicated their evaluation using a response scale from 1 (*not at all important/relevant*) to 6 (*very important/relevant*). At the end of the questionnaire, we asked the participants to describe the type of encounter they had in mind when they answered the question of importance. This procedure allowed a test of Hypothesis 1.

To test Hypothesis 2, the study included an experimental manipulation. Using a priming technique, we tested whether the activation of positive or negative aspects of the intergroup encounters influenced the perceived importance of one's contact with ethnic minorities. Participants were randomly assigned to five conditions and were told in the negative priming condition that research had shown that people sometimes feel it is unpleasant

to have close contacts with other cultures and with subgroups or single members of other cultures. We instructed participants to think about their own contact experiences with members of ethnic minorities and which aspects of these contacts were unpleasant, threatening, or repelling for them personally. We told participants in the positive priming condition that studies had shown that people sometimes feel enriched by intercultural contacts. They were told to think about their own contact experiences with members of ethnic minorities and which aspects of these contacts were pleasant, attractive, or enriching for them personally. The study included two control conditions. Participants in these conditions had to think about either negative or positive contact experiences referring to an irrelevant out-group (university teachers). After thinking about the primed contact experiences, all four groups had to write down one or more of the aspects they had in mind. Participants in a final control condition received no priming at all.

### Results

Two hundred fifty-seven participants gave a free description of the contact situation they had thought of when answering the questionnaire. Hypothesis 1 holds that the more an encounter is described as important, the more the respondent is involved in the intergroup contact and perceives the situation as a goal in itself or as a means to realize a valued end. To test this hypothesis, the free descriptions were categorized by two raters (mean interrater agreement  $K = .74$ ). One of the categories that the raters created was whether the respondents associated the contact with the achievement of positive intercultural goals (e.g., "Cultural exchange is interesting and important for me in order to have my own rich experiences"). Thus, this category taps our definition of important contacts as functionally relevant encounters. Thirty-five percent of the respondents gave an answer that referred to this category. We compared those respondents who focused on this type of functional relevance with those who did not associate their intergroup contact with such a goal. Consistent with Hypothesis 1, participants of the former group reported significantly greater importance of the contact ( $M = 4.74$  compared with  $M = 4.04$ ,  $t(225) = -4.52$ ,  $p < .001$ ).

Hypothesis 2 asserts that perceived importance should increase as the contact situation is perceived as more positive. For these analyses, importance ratings were corrected for respondents' reports about the frequency of their contact.<sup>1</sup> An analysis of covariance, with frequency as a covariate, showed significant differences between the experimental groups,  $F(2, 231) = 6.49$ ,  $p < .01$ . The means of importance were 4.08 for the negatively primed group, 4.38 for the control groups, and 4.73 for the positively primed group, respectively. Planned comparisons revealed significant dif-

<sup>1</sup> The rationale for this procedure is to control for accidental differences in frequency between the experimental groups. A mean of frequency of contact with foreigners at the workplace, in the neighborhood, and with foreign friends was calculated. These evaluations were collected before the experimental manipulation.

ferences between the positively primed group and the control group ( $\Delta = .355$ ,  $SE = .150$ ),  $t(232) = 2.37$ ,  $p < .01$ , one-tailed, and between the negatively primed group and the control group ( $\Delta = -.294$ ,  $SE = .155$ ),  $t(232) = -1.90$ ,  $p < .05$ , one-tailed. Thus, our experimental manipulation of inducing positive or negative feelings associated with contact experiences produced effects in the predicted direction—more positive feelings were associated with an evaluation of the contact as being more important.

Hypothesis 3 proposes that the perceived importance of contact can be differentiated both from quantity and quality contact indicators. We tested this hypothesis with confirmatory factor analyses (EQS 5.7b [Bentler, 1995]; maximum likelihood; listwise deletion of missing data) using the covariance matrix between all indicators. Appendix B provides the relevant correlational matrix.

Three models tested Hypothesis 3. The first two models used two correlated latent factors representing the four quantity and the five quality indicators, respectively. We followed the recommended standards when evaluating the fit statistics of the models and used comparative fit indices and chi-square/degree of freedom ratios rather than significance tests and absolute chi-square values (Hu & Bentler, 1999). The importance item was included first in the quantity factor, then in the quality factor. The former model fit the data better than the latter: importance and quantity on single latent factor,  $\chi^2(34, N = 147) = 74.6$ ,  $p < .01$  (comparative fit index [CFI] = .93; root-mean-square error of approximation [RMSEA] = .09;  $\chi^2/df = 2.2$ ); importance and quality on single latent factor,  $\chi^2(34, N = 147) = 106.2$ ,  $p < .01$  (CFI = .87; RMSEA = .12;  $\chi^2/df = 3.1$ ). Next, a three-correlated factor model was tested, with one latent factor for contact quantity (four indicators), another for importance (single item), and a third for contact quality (five indicators). This model resulted in a superior fit,  $\chi^2(32, N = 147) = 58.6$ ,  $p < .01$  (CFI = .95; RMSEA = .07;  $\chi^2/df = 1.8$ ), and it is significantly better than the previous models,  $\Delta\chi^2(2, N = 147) = 16.0$  and  $47.6$ , respectively,  $p < .01$ . Thus, these results support our contention that it is meaningful to differentiate between perceived importance and quantity as well as quality of contact.

For another test of the distinctiveness of importance, step-down regression analyses were conducted with prejudice as the criterion; the five quality or quantity indicators, respectively, as predictors in the first step; and perceived importance entered as a predictor in the second step. The analysis with quantity of contact in Step 1 revealed a highly significant increment of explained variance when importance was entered in Step 2 ( $\Delta R^2 = .053$ ,  $p < .0001$ ). Similarly, the analysis with quality of contact in Step 1 also revealed a highly significant increment of explained variance when importance was entered in Step 2 ( $\Delta R^2 = .050$ ,  $p < .0001$ ). Finally, a regression with prejudice as criterion in which all nine quantity and quality indicators were entered in the first step ( $R^2 = .21$ ,  $p < .0001$ ) still revealed a significant amount of additional variance explained when importance was added in the final step ( $R^2 = .23$ ,  $\Delta R^2 = .023$ ,  $p = .018$ ). In this third analysis, age and sex of the participant also were included to control for demographic effects (in the first step), but neither made significant contributions (sex:  $\beta = .05$ ,  $ns$ ; age:  $\beta = -.03$ ,  $ns$ ). Hence, perceived importance makes a unique contribution to the explanation of prejudice ( $\beta = -.19$ ,  $p < .05$ ) beyond the combined effects of quality and quantity indicators of contact while controlling for demographic characteristics.

Next, we examined which of the contact quality measures are associated with our measure of perceived importance. A simultaneous regression analysis was conducted with importance as the criterion variable and the five quality indicators as predictors. Three of the quality indicators uniquely predicted importance (superficial vs. intimate:  $\beta = .23$ ,  $p < .05$ ; voluntary:  $\beta = .24$ ,  $p < .05$ ; uncooperative vs. cooperative:  $\beta = .18$ ,  $p < .05$ ). The remaining two indicators did not predict importance (equal status:  $\beta = -.05$ ,  $ns$ ; unpleasant vs. pleasant:  $\beta = .13$ ,  $ns$ ).

## Discussion

As expected, results of the confirmatory factor and regression analyses demonstrate that our new measure of perceived importance is related, but not equivalent, to the quantity and quality indicators of contact used in previous research. The relationships between importance and the various quality indicators are either small or moderate in size. Perceived importance links more with personally perceived intimacy and the cooperative nature of the contact than with evaluations of more objective contact conditions such as status perceptions. The content analyses and the results of the experimental manipulation both revealed that importance is related to encounters that are positively evaluated as well as serving one's personal goals.

## Study 2

The aim of Study 2 was twofold. First, we wanted to probe further into the meaning of importance to gain a better understanding of the link between viewing one's personal relationships as important and the assessment of that contact as serving one's personal goals (Hypothesis 1). Second, we wanted to cross-validate the results concerning Hypothesis 3. To achieve this, we asked a new sample more directly about how they perceived their personal contacts, and this time we used several items for assessing importance to measure reliability.

## Method

Ninety-seven undergraduate (31%) and graduate (69%) students from a range of disciplines (mostly law, medicine, business, and educational studies) completed a questionnaire. Women made up 54% of the sample, and the participants' average age was 24.56 years ( $SD = 3.67$ ). The questionnaire was introduced as part of a larger research project on the coexistence of Germany's diverse ethnic groups.

We measured quantity and quality of contact with ethnic minority group members with identical items to those of Study 1 (Appendix A) but with a 4- instead of 6-point response scale. We also added two more items to the importance measure: "Contact with ethnic minority group members is unimportant to me personally" and "To have contact with ethnic minority group members means a lot to me." To assess whether importance of contact is related to the achievement of personal goals, we formulated several items on the basis of the answers given by Study 1's subjects: "Contact with ethnic minority group members is helpful for my studies"; "I have contact with ethnic minority group members, because I like foreign cuisine"; "Contact with ethnic minority group members helps me to look beyond the end of my nose"; "Contact with ethnic minority group members helps me to understand foreign cultures"; and "Contact with ethnic minority group members allows me to broaden my horizon."

## Results

We first checked on the scale reliability of the measure of perceived importance. The three items provide a Cronbach's alpha

of .86 with item–total correlations between .66 and .84. To replicate the findings from Study 1 concerning Hypothesis 1, we calculated bivariate correlations between this new scale of perceived importance and the items that assess functionality of contact (the item matrix for these analyses can be found in Appendix C). All of the correlations were significant and in the predicted direction. Participants who perceived their contacts with ethnic minorities as important found these contacts helpful for their studies ( $r = .32, p < .001$ ) and had contact because they liked foreign cuisine ( $r = .20, p < .05$ ), because contact allowed them to look beyond the end of their nose ( $r = .33, p < .001$ ), because it helped them to understand foreign cultures ( $r = .41, p < .001$ ), and because it helped to broaden their horizon ( $r = .39, p < .001$ ). Thus, perceiving intergroup contact as important means that the contact serves either concrete goals (studies, cuisine) or helps more generally understanding of foreign cultures and broadening one’s perspective. These results replicate the content analysis findings of Study 1.

To replicate the findings concerning Hypothesis 3, we calculated the same models as in Study 1, but this time we used the three items of importance to improve the reliability of this measure. We compared a model assuming three separate latent factors representing quality (five items), quantity (four items), and importance (three items) of contact, with models assuming that importance either was represented by a larger latent variable incorporating both importance and quantity or, in a third model, importance and quality of contact. Although not an optimal fit, the proposed model assuming three separate latent factors,  $\chi^2(52, N = 92) = 120.2, p < .01$  (CFI = .87; RMSEA = .12;  $\chi^2/df = 2.4$ ) represented the data significantly,  $\Delta\chi^2(1, N = 92) = 41.4$  and  $152.7$ , respectively,  $p < .01$ , better than the two alternative models—two correlated factors with quantity and importance on one factor,  $\chi^2(53, N = 92) = 161.6, p < .01$  (CFI = .80; RMSEA = .15;  $\chi^2/df = 3.0$ ); and two factors with quantity and importance on one factor,  $\chi^2(53, N = 92) = 272.9, p < .01$  (CFI = .60; RMSEA = .21;  $\chi^2/df = 5.2$ ).

## Discussion

The findings presented in Study 1 are replicated here with different measures. First, concerning Hypothesis 1, all correlations between importance and the items tapping the achievement of personal goals were significant and positive. Providing additional support for Hypothesis 3, importance proves once again to be separate from both quantity and quality of contact—this time using a three-item scale of importance items rather than a single item.

We now turn to our test of the predicted causal order and the mediational role of perceived importance in improving intergroup attitudes (Hypothesis 4). The aim of Study 3 was to provide detailed analyses and insights into the model building and testing.

## Study 3

### Method

The data for this study involved 769 East (70%) and West (30%) German high school students (ages 14–18 years) who answered standardized questionnaires (Schneider, 1994). Indicators of the quantity of contact and importance were identical to those used in Study 1, save that the response scales ranged from 1 to 4. Several measures of out-group eval-

uation were obtained. First, six items were used to measure antipathy toward different out-groups in Germany (Turks, “*Aussiedler*” [i.e., resettlers of German origin], Poles, refugees, Sinti and Roma, and Vietnamese). Participants indicated their feelings toward each group by marking a point on a line with the endpoints of *very pleasant* and *very unpleasant*. These answers were transformed into values of 10 to 100, with higher values indicating stronger feelings of antipathy. Five items tapping behavioral intentions toward immigrants provided an additional measure of out-group evaluation (e.g., “All people not born in Germany should be sent back to the countries of their origin”). Participants indicated their agreement with each statement using a response format from 1 (*strongly disagree*) to 4 (*strongly agree*). By averaging the responses to the five items, a reliable scale emerged ( $\alpha = .85$ ).

## Results

As shown in Figure 1, we assume that (a) contact at work, in the classroom, and in the neighborhood serve as distal contact opportunities; (b) if individuals have such opportunities for contact, their chances to have out-group acquaintances and friends increase; (c) contact among acquaintances and friends can be perceived as more or less important; and (d) this perception of importance is a key mediating variable determining intergroup evaluations. Direct paths from distal contact opportunities or proximal contact to intergroup evaluations are not a priori ruled out, but indirect effects—mediated through importance—are proposed as a key mechanism of contact effects on intergroup attitudes.

To test these predictions, we used structural equation modeling (see Appendix D for the correlation matrix). First, we randomly split the total sample into two subgroups. The proposed model was calculated on the first subgroup and cross-validated on the second subgroup using the dependent variable (DV) of antipathy against Turks. In further steps, the model was calculated with the other available DVs. Using the first subsample ( $n = 381$ ), with all contact variables in the proposed order and antipathy against Turks as the prejudice indicator, the model provides a good fit:  $\chi^2(6, N = 381) = 13.6, p = .03$  (CFI = .99; RMSEA = .06;  $\chi^2/df = 2.3$ ). The Lagrange Multiplier Test and the Wald test suggested no changes in the model. Replication with the second subgroup ( $n = 389$ ) resulted in an even closer fit,  $\chi^2(6, N = 389) = 8.1, p = .03$  (CFI = 1.0; RMSEA = .03;  $\chi^2/df = 1.4$ ). Modification indices again revealed no paths to be added or removed, and a multigroup analysis revealed no differences between the subsamples.

Figure 2 shows the final model using the total sample. It supports the proposed causal order that contact in the classroom and neighborhood leads to more cross-group acquaintances and friends. Both intergroup acquaintances and friends directly enhance the perceived importance of contact that in turn results in reduced antipathy against Turks. All these paths are significant. Friends were recruited mainly from mixed classrooms ( $\beta = .46$ ) but also from mixed neighborhoods ( $\beta = .25$ ). With slightly less important relationships, acquaintances also were recruited from both mixed classrooms ( $\beta = .35$ ) and neighborhoods ( $\beta = .23$ ). Friends had a larger effect on perceived importance ( $\beta = .40$ ) than acquaintances ( $\beta = .22$ ), whereas the perceived importance of contact had a strong impact on antipathy ( $\beta = -.46$ ). No direct paths between importance and the distal contact variables were suggested by the Lagrange Multiplier Test. Of special relevance for our hypotheses, no direct paths existed between antipathy and the distal and proximal contact indicators.

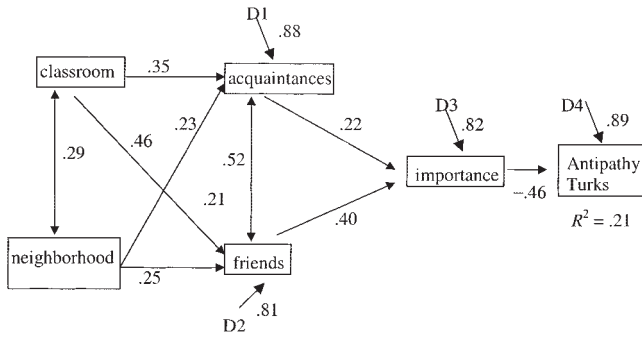


Figure 2. Results of structural equation analysis with data from Study 3. All paths significant:  $\chi^2(6, N = 769) = 17.9, p < .006$  (comparative fit index = .99; root-mean-square error of approximation = .05;  $\chi^2/df = 2.99$ ).

In the next step, we calculated identical models for the range of available measures of out-group evaluation. The fit statistics for each analysis revealed a good fit to the data (note that for all chi-squares that follow,  $df = 6, N = 796$ ): DV antipathy against *Aussiedler*,  $\chi^2 = 15.0, p = .02$  (CFI = .99; RMSEA = .04;  $\chi^2/df = 2.50$ ); DV antipathy against Poles,  $\chi^2 = 72.8, p < .01$  (CFI = .95; RMSEA = .12;  $\chi^2/df = 12.1$ ); DV antipathy against Africans,  $\chi^2 = 15.8, p = .02$  (CFI = .99; RMSEA = .05;  $\chi^2/df = 2.6$ ); DV antipathy against refugees,  $\chi^2 = 22.7, p = .02$  (CFI = .99; RMSEA = .06;  $\chi^2/df = 3.78$ ); DV antipathy against Sinti/Roma,  $\chi^2 = 21.4, p < .01$  (CFI = .99; RMSEA = .06;  $\chi^2/df = 3.57$ ); DV antipathy against Vietnamese,  $\chi^2 = 18.8, p < .01$  (CFI = .99; RMSEA = .05;  $\chi^2/df = 3.14$ ); DV immigration attitudes,  $\chi^2 = 23.3, p < .01$  (CFI = .99; RMSEA = .06;  $\chi^2/df = 3.88$ ). These strong results cross-validate the results with antipathy against Turks as the DV. The proposed causal structure has thus received support with a single sample but on a range of out-groups.

In a final step, we tested our mediational hypothesis with a different procedure. Following Baron and Kenny (1986), we calculated simple linear regression analyses with the DVs as described above as criteria, friendship as the most proximal indicator of contact as predictor in the first step, and importance in the second step. Comparing the betas of friendship before and after including importance gives an index of the amount of mediation. Additionally, we assessed the significance of an indirect effect of friendship on prejudice via importance using the Sobel procedure (Baron & Kenny, 1986; Sobel, 1982).

As shown in Table 1, the average amount of mediation was about 62%, and in each case there was a significant indirect effect. These findings support our hypothesis that importance serves as a significant mediator between intergroup contact and prejudice.

*The Causal Order of Contact and Prejudice*

Our theory and empirical models assume a unidirectional causal relationship between intergroup contact and prejudice. All our models tested a causal direction from contact to prejudice. However, the opposite causal order is also possible—more prejudiced individuals may actively avoid intergroup contact, whereas tolerant individuals may seek it. To check these alternative causal structures, we first tested a model assuming a reverse causal order

of prejudice and importance. This alternative model fits far less well,  $\chi^2(6, N = 796) = 108.3, p < .01$  (CFI = .92; RMSEA = .15;  $\chi^2/df = 18$ ) than the proposed model,  $\chi^2(6, N = 796) = 17.9, p < .01$  (CFI = .99; RMSEA = .05;  $\chi^2/df = 2.99$ ). Four mathematically equivalent models emerged with reverse paths from acquaintances and friends to classroom and neighborhood (see Wagner et al., 2003). It is plausible to regard choice of neighborhood to be at least partially dependent on acquaintances and friends. That is, people with more interethnic acquaintances or friends may actively look for mixed neighborhoods. However, in Germany, there is no free choice of schools; normally students must attend their local schools. Therefore, the reversal of paths from classroom to acquaintances and friends, respectively, is highly implausible.

To test the possibility that prejudice negatively influences contact, we calculated a nonrecursive model with both paths tested simultaneously. This procedure is applicable if there is an additional exogenous variable that correlates with one of the predictors and not with the other (Heise, 1975, pp. 160–168; Pettigrew, 1997). In principle, any variable that explains variance in the one but not the other latent factor can be used. Relative deprivation (one item measuring group relative deprivation of Germans in relation to ethnic minorities) proved to be such a variable; it was significantly related to prejudice but not to contact. We calculated a model with distal contact as a latent variable made up of classroom and neighborhood contact, proximal contact as a latent variable operationalized with three indicators (friends, acquaintances, and importance), and prejudice as another latent variable consisting of the five questions regarding immigration attitudes. Finally, we entered relative deprivation as the additional exogenous variable. The model fit is adequate,  $\chi^2(41, N = 796) = 216.8, p < .01$  (CFI = .94; RMSEA = .08;  $\chi^2/df = 5.3$ ). As predicted, the path from proximal contact to prejudice was significantly larger ( $\beta = -.34, SE = .04, t(768) = -6.25$ , than the opposite path ( $\beta = -.22, SE = .06, t(768) = -4.48$ ). Finally, a model with a path from contact to prejudice ( $\beta = -.49, \chi^2(42, N = 769) = 232.6$ , fit much better than one with a path from prejudice to contact ( $\beta = -.42, \chi^2(42, N = 769) = 250.4; \Delta\chi^2(1, N = 769) = 13.8, p < .01$ ). Although these are crude tests, other investigators have reached the same conclusion using an array of different methods (e.g., Irish, 1952; Powers & Ellison, 1995; Wilson, 1996).

Table 1  
*Perceived Importance as a Mediator Between Friendship and Prejudice Indicators (Study 3)*

Prejudice indicator	Friendship ( $\beta$ )		Amount of mediation (%) <sup>a</sup>	Z
	Without importance	Importance included		
Antipathy against "Aussiedler"	-.17***	-.09*	48	3.63***
Poles	-.38***	-.25***	33	5.43***
Africans	-.25***	-.01	87	9.82***
Refugees	-.21***	.03	97	9.56***
Turks	-.34***	-.12**	63	8.93***
Vietnamese	-.35***	-.14***	60	8.69***
Sinti and Roma	-.32***	-.15***	52	6.98***
Immigration attitudes	-.38***	-.14***	63	10.04***

<sup>a</sup> M = 62.  
\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

## Discussion

The findings of Study 3 clearly support our fourth hypothesis. The structural equation analyses provide evidence for the proposed causal model, and the additional mediation analyses demonstrate that perceived importance is a crucial mediating factor between contact and prejudice. Although cross-sectional studies cannot fully clarify the causal order of the variables included, our extensive testing of alternative models suggests that the proposed causal order seems most appropriate. Together with similar results obtained by Pettigrew (1997), Wagner et al. (2003), and others, evidence from the present study contributes to our understanding of intergroup contact as positively and causally influencing intergroup evaluations.

Although we tested the models using a range of measures and target groups, the generalizability of this study's findings is somewhat limited by its use of a single sample consisting of school students from the German majority. Hence, we turn now to our attempt to replicate these findings with a wide range of demographically diverse samples.

### Study 4

The aim of Study 4 was to cross-validate the findings of Study 3 concerning Hypothesis 4 using several highly diverse samples. Rather than unfolding our analyses sample by sample, we analyze all the relevant data simultaneously.

## Method

This section briefly describes the items and the four samples used in these analyses. Detailed information, such as the complete questionnaires, is available from Rolf van Dick. The order of contact items in the questionnaires was identical for all studies: Importance was always measured immediately after asking for contact at work, neighborhood, and with acquaintances and friends. So we consider this measure not as an assessment of the importance of abstract contact but rather as an evaluation of concrete, personally experienced contact.

In Sample 1, 134 young German men (ages 18–25 years) doing their civil service in lieu of military service answered standardized questionnaires (van Dick & Wagner, 1995). Quantity and importance of contact were obtained with identical measures as in Study 1 (see Appendix A). Out-group evaluation was measured with the Subtle and Blatant Prejudice Scales of Pettigrew and Meertens (1995;  $\alpha = .73$  and  $.82$ , respectively) and a 13-item scale ( $\alpha = .87$ ) measuring acculturation attitudes as defined by Berry (1997; e.g., "A society with a variety of ethnic groups is better able to tackle new problems"; see van Dick, Wagner, Adams, & Petzel, 1997). Participants indicated their agreement with each statement using a response scale from 1 (*strongly disagree*) to 4 (*strongly agree*), with higher values indicating more positive attitudes toward multicultural societies and immigrants.

In Sample 2, a heterogeneous group of 553 Germans from 11 different regions, filled out standardized questionnaires (Petzel, 2003). The sample consisted of 51% women, had a mean age of 35 years, and 51% had at least finished high school. The importance measure was identical to that in Study 1 plus two questions from Study 1 that measured contact quantity (contact with intergroup friends and acquaintances). The DVs were identical to those of Sample 1 (subtle and blatant prejudice with  $\alpha$ s of  $.71$  and  $.80$ , and acculturation attitudes with  $\alpha = .85$ ) but with 6-point answering scales.

Sample 3 had 96 Turkish men living in Germany as respondents (Arguc, 1995). The sample's mean age was 30 years, 60% were married, and 29%

had finished high school. The questionnaire contained quantity and importance of contact items identical to those in Study 1 plus an item asking, "How pleasant are Germans?" with a response scale from 1 (*very unpleasant*) to 10 (*very pleasant*) as the main measure of out-group evaluation.

Samples 4 and 5 derived from a study on acculturation attitudes of high school students in Costa Rica (Smith Castro, 2003): 726 members of the White majority (Sample 4) and 375 members of the Afro-Caribbean minority in Costa Rica (Sample 5). The importance and quantity of contact indicators were identical to those in Study 1. Out-group evaluation was assessed with a four-item measure of separation attitudes similar to the acculturation scale in Samples 1 and 2 (e.g., "I feel that it would be better if different ethnic groups didn't try to mix together"). With a response format from 1 (*strongly disagree*) to 6 (*strongly agree*), majority and minority respondents provided somewhat lower reliabilities ( $\alpha = .66$  and  $.65$ , respectively). (The correlation matrices, means, and standard deviations for each sample are provided in Appendix E.) For these Costa Rican samples, the questionnaire was in Spanish. Here the term *importante* has much the same meaning as *important* in English without the extra connotation of "relevant" carried by the German term *wichtig*.

## Results and Discussion

As in Study 3, we again used structural equation modeling to test different measures of prejudice with the same model in each sample. In nine additional analyses, we replicated the model developed in Study 3 across this broad range of diverse DVs and samples. Table 2 presents the results. The goodness of fit indicators and the size of the path coefficients confirm our proposed model. Thus, the proposed heuristic model of Figure 1 fits for a broad range of target groups and DVs.

Only two outliers emerged in these multiple analyses. Consider first the model for acculturation attitudes in Sample 1. Literally no variance was explained and, although all relations were in the proposed directions, no correlations or betas were significant. This result is puzzling, because the predictive power of importance for both subtle and blatant prejudice is strong. Moreover, when considering the prediction of acculturation attitudes in Sample 2, the assumptions were met closely with an explained variance of  $R^2 = .21$  and an importance-attitude association of  $\beta = .46$ .

The second exception appears in the analysis of Turkish men in Sample 3. In this analysis, the predictive power of importance on sympathy for Germans was only marginally significant ( $\beta = -.19$ ,  $t(95) = 1.88$ ,  $p < .10$  and  $p < .05$ , respectively, when tested one-tailed). However, the explained variance of sympathy was also low (.04). Nevertheless, relations between the contact indicators mirror those in other models, and the overall model fit is sufficient.

Considering the results of the structural equation models together (see especially Table 2's columns for CFI and RMSEA), the fourth hypothesis is again strongly supported. The structural equation model developed in Study 3 is cross-validated in independent studies with sharply contrasting samples and DVs.

*The particular significance of importance.* As a further test of Hypothesis 4, a meta-analysis using the five subsamples of Study 4 was conducted to summarize the different relationships between contact and measures of out-group evaluation. Table 3 shows the mean effect sizes with Cohen's  $d$ s of  $-.28$  for work and classroom,  $-.20$  for neighborhood,  $-.54$  for acquaintance,  $-.31$  for friends, and  $-.64$  for perceived importance (negative values indicate that more contact is associated with less prejudice). All the effect sizes support our hypothesis of the positive impact of



Table 2  
Summary Statistics of Structural Equation Modeling, Study 4

Dependent variable	R <sup>2</sup>	Importance (β)	χ <sup>2b</sup>	df	p	χ <sup>2</sup> /df	CFI	RMSEA
Sample 1 (N = 134)								
Subtle prejudice	.16	-.40	1.59	6	.953	.27	1.0	.00
Blatant prejudice	.12	-.34	3.85	6	.697	.64	1.0	.00
Acculturation attitudes	.00	.07	1.98	6	.922	.33	1.0	.00
Sample 2 (N = 537)								
Subtle prejudice	.14	-.37	6.88	2	.032	3.44	.99	.07
Blatant prejudice	.20	-.45	13.88	2	.001	6.94	.98	.11
Acculturation attitudes	.21	.46	3.67	2	.160	1.84	1.0	.04
Sample 3 (N = 92)								
Sympathy for Germans	.04	.19†	11.23	6	.081	1.87	.96	1.0
Sample 4 (N = 727)								
Separation	.09	-.30	0.64	3	.888	.21	1.0	.00
Sample 5 (N = 376)								
Separation <sup>a</sup>	.03	-.18	24.81	5	.000	4.96	.93	1.0

Note. CFI = comparative fit index; RMSEA = root-mean-square error of approximation.  
<sup>a</sup> For better model fit, direct paths from classroom (.34) and neighborhood (.09) on importance were necessary. <sup>b</sup> Ns for chi-squares are the same as those for each sample—that is, 134 for Sample 1, 537 for Sample 2, and so on.  
 † p < .10.

contact on intergroup relations. Note that this overall effect size of  $-.39$  ( $r = -.19$ ) closely resembles the meta-analytic results of Pettigrew and Tropp (2004) for 515 studies ( $d = -.47$ ,  $r = -.23$ ).

Not surprisingly, the correlational and meta-analytic results reveal substantial heterogeneity in the contact–prejudice relationship. Consistent with Allport’s (1954) original contact hypothesis, intergroup acquaintance and friendship have more impact than the distal contact opportunities of the neighborhood, classroom, or workplace. Indeed, the distal contact relationships failed to attain significance in the meta-analysis. However, note that the significantly largest effect size emerges for the perceived importance of contact. In the meta-analysis and in each of the zero-order correlations, perceived importance has more predictive power than the other contact indicators—even friendship. These results support

our proposition that perceived importance acts as a key variable in the link between intergroup contact and attitudes.

In a more direct test of the role of importance as a mediator, Table 4 shows the size (percentage of mediation) of the effect of perceived importance as a mediator between contact and prejudice in each of our samples. As the most proximal contact indicator, friendship was used for these analyses. We tested for the indirect effect of friendship via importance on prejudice indicators using the Sobel test again (Sobel, 1982). Table 4 shows that the mean percentage of mediation is 54%. With two exceptions, all mediations are highly significant. In Samples 1 and 3, friendship is not related to immigration attitudes and sympathy for Germans, respectively. Therefore, no mediation could occur (Baron & Kenny, 1986). Nevertheless, in all other cases, large portions of the variance of the effect of friendship on various prejudice indicators are mediated by perceived importance. These results strongly support Hypothesis 4.

*Moderation versus mediation.* Finally, we examined whether importance served as a moderator in addition to its role as a mediating variable. We conducted hierarchical regression analyses to test this alternative function of importance. To perform a comprehensive test, we included all eight samples of all four studies. In Step 1, we entered friendship and importance and, in Step 2, the interactions between friendship and importance. Following Aiken and West (1991), we centered the predictor variables before computing the interaction terms and entered the centered scores on Step 1. Results from all 19 regressions demonstrate that importance acts predominantly as a mediator. The inclusion of impor-

Table 3  
Results of Meta-Analysis Among the Five Subsamples of Study 4

Contact indicator	k	N	d	95% CI	r	p
Classroom/work	4	1,331	-.28	-.21, -.36	-.14	.33
Neighborhood	4	1,331	-.20	-.13, -.28	-.10	.74
Acquaintance	3	783	-.54	-.44, -.64	-.26	< .01
Friends	5	1,884	-.31	-.25, -.37	-.15	< .001
Importance	5	1,884	-.64	-.57, -.70	-.30	< .001
Overall	21	1,884	-.39	-.36, -.43	-.19	< .001

Note. Within the studies, zero-order correlations between contact and different attitude indicators were averaged. CI = confidence interval.

Table 4  
*Perceived Importance as a Mediator Between Friendship and Prejudice Indicators*

Prejudice indicator	Friendship ( $\beta$ )		Amount of mediation (%) <sup>a</sup>	Z
	Without importance	Importance included		
Sample 1				
Immigration attitudes	.07	.05	no mediation	
Blatant prejudice	-.20*	.03	85	3.04**
Subtle prejudice	-.22*	-.03	84	3.82***
Sample 2				
Acculturation	.31***	.08	75	7.87***
Blatant prejudice	-.28***	-.05	81	7.92***
Subtle prejudice	-.17***	.06	66	7.24***
Sample 3				
Sympathy for Germans	-.09	-.19	no mediation	
Sample 4				
Separation	-.11**	-.03	77	5.64***
Sample 5				
Separation	-.15**	-.12*	18	2.32*

<sup>a</sup>  $M = 54$ . Cases without significant mediation effects were included with 0% mediation for calculation of the mean effect.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

tance mediates between friendship and the criteria in 17 analyses (see Tables 1 and 4, respectively). The interaction term, however, obtains significance in only 6 of the regressions. In each of these 6 cases, importance as a predictor is still significant and larger than the interaction term. In sum, our prediction of importance as a mediator receives substantial support, whereas moderating effects are small and unsystematic.

### General Discussion

Taken together, the analyses support our hypotheses. First, participants reporting their intergroup contact as being of importance and personal relevance did so because they considered that their contact served their personal goals. These goals were, for instance, getting more insight into other cultures and broadening one's horizon. In two studies, using content analyses as well as a quantitative approach, this relationship between perceived importance and the functionality of contact received support. In addition, using experimental data, we found that respondents who saw their intergroup contacts as positive also regarded these contacts as more important.

Our further predictions of the differential impact of various contact dimensions and their underlying causal structure hold for most of our analyses. In particular, it is the subjectively perceived importance of intergroup contact that mediates much of intergroup contact's reduction of prejudice. These results suggest that the simple fact that an individual has friends from other groups is not the key to reducing intergroup prejudice in itself. Rather, what is

critical is the subjective appraisal of a valuable interpersonal relationship that is functional for the individual's goals.

Perceived importance is a psychologically meaningful concept that extends the analysis of how intergroup contact reduces prejudice. One possible explanation for the unusual strength of perceived importance is that this measure compensates to some extent for differences between cultures, countries, or even individuals in labeling an intergroup relationship as acquaintanceship or friendship. "To be a friend" has different meanings in different languages and cultures, and even individuals vary widely in how they label another person as a close friend, a friend, or just an acquaintance (Triandis, Bontempo, & Villareal, 1988). Perceived importance appears to be less prone to such differences, and therefore it emerges as a stronger indicator of beneficial intergroup contact. According to the results of our first two studies, important contacts serve personal goals and are considered as positive. In accordance with the theoretical arguments we have advanced, this fits with the models of attitude change and persuasion. Contacts that are relevant for an individual's goals and are considered as positive are those that are strong and relevant for one's self-esteem.

When speculating about potential psychological mechanisms that might explain the influence of importance of contact on prejudice, we refer to Petty and Cacioppo's (1986) contentions about the factors that determine a strong impact of important topics. Petty et al. (1981) proposed two mechanisms that lead to the more sophisticated processing of arguments. First, important or personally relevant topics involve people and motivate them to hold accurate opinions. Second, the likelihood that people already

have some knowledge of the topics they consider as personally important is greater than for topics with little personal relevance. Through a more elaborated processing of the information provided in the encounter, one's attitudes are more often lastingly altered.

We can add a third explanation for the influence of importance: If one's contact is already perceived as being very important because of its positivity, it will be less susceptible to new information provided by the media or other third sources. Intergroup contact perceived as important provides both greater stability of already positive attitudes toward out-group members as well as more sophisticated central processing. Combined, these two effects should lead to a more lasting positive evaluation of the out-group.

The other contribution of this research is the description, development, and confirmation of a causal order underlying the intergroup contact–intergroup attitude relationship. If the results of this study are replicated in further experimental and longitudinal studies, the model should be useful for both contact theory and its applications. Because there are only positive paths from contact at work or in the neighborhood to friends and acquaintances, we believe that this distal contact is critical and should be politically supported as opposed to segregation and the ghettoization of minority groups (Wagner et al., 2003). Yet the mediation of contact on prejudice through perceived importance implies that intergroup contact reduces prejudice the more the interactants value the contact. This is another issue that authorities must consider and support when planning optimal intergroup contact.

### Limitations and Outlook

The present research on testing the causal order of different contact indicators and prejudice is entirely cross-sectional. Therefore, the described causal order must be cautiously interpreted. Longitudinal research is necessary to confirm the results (for recent examples, see Eller & Abrams, 2003; Levin, Van Laar, & Sidanius, 2003). Additionally, this future research should also test moderating effects of importance beyond the mediating role shown here.

Nonetheless, the reported cross-validation of the model with markedly contrasting studies, samples, and measures renders our basic findings stable and likely to be confirmed in longitudinal research. One advantage of our use of a variety of large and diverse surveys is that each serves to compensate for weaknesses in the others. The fact that all the results point in the same direction exploits the power of replication in support of our contentions. When comparing the results of our meta-analysis with the findings of other research, keep in mind that our analyses cover all five samples, and within the samples, all available relationships, including the nonsignificant results. Most reviews are dependent on published material that can overestimate real effect sizes, whereas most of the studies used here are unpublished.

Analysts of national and international relations point to the danger that future decades may witness continuing or even increasing intergroup conflict. They especially view ethnic, cultural, and religious differences as likely causes of severe and even violent confrontations (Chirof & Seligman, 2001; Huntington, 1993). The extension and application of social psychological knowledge about mechanisms that reduce negative out-group attitudes can play a crucial role in the reduction and prevention of such conflicts

(Pettigrew, 2001). Contact theory promises one important remedy by bringing members of different groups into personal contact under optimal conditions. Consequently, we hope that the presented results will contribute to a better understanding of these mechanisms and lead to further research on the principles of intergroup contact theory and its applications, which aim at developing strategies and interventions to alleviate intergroup conflict.

### References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. New York: Sage.
- Ajzen, I. (2001). Nature and operation of attitudes. *Annual Review of Psychology*, *52*, 27–58.
- Allport, G. W. (1954). *The nature of prejudice*. Reading, MA: Addison-Wesley.
- Arguc, S. (1995). *Bedrohung und Gewaltbereitschaft türkischer Männer* [Threat and readiness for violence of Turkish men]. Unpublished diploma thesis, Philipps-Universität, Marburg, Germany.
- Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of Other in the Self Scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*, *63*, 596–612.
- Aron, A., & McLaughlin-Volpe, T. (2002). Including others in the self. In C. Sedikides & M. B. Brewer (Eds.), *Individual self, relational self, collective self* (pp. 89–108). Philadelphia: Psychology Press.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182.
- Bentler, P. M. (1995). *EQS: Structural equations program manual*. Encino, CA: Multivariate Software.
- Berry, J. W. (1997). Immigration, acculturation, and adaptation. *Applied Psychology: An International Review*, *46*, 5–34.
- Boninger, D. S., Krosnick, J. A., & Berent, M. K. (1995). Origins of attitude importance: Self-interest, social identification, and value relevance. *Journal of Personality and Social Psychology*, *68*, 61–80.
- Brown, R., Maras, P., Masser, B., Vivian, J., & Hewstone, M. (2001). Life on the ocean wave: Testing some intergroup hypotheses in a naturalistic setting. *Group Processes and Intergroup Relations*, *4*, 81–97.
- Brown, R., Vivian, J., & Hewstone, M. (1999). Changing attitudes through intergroup contact: The effects of group membership salience. *European Journal of Social Psychology*, *29*, 741–764.
- Chirof, D., & Seligman, M. E. P. (Eds.). (2001). *Ethnopolitical warfare: Causes, consequences, and possible solutions*. Washington, DC: American Psychological Association.
- Cook, S. W. (1984). Cooperative interaction in multiethnic contexts. In N. Miller & M. B. Brewer (Eds.), *Groups in contact: The psychology of desegregation* (pp. 155–182). Orlando, FL: Academic Press.
- DuBois, D., & Hirsch, B. (1990). School and neighborhood friendship patterns of Blacks and Whites in early adolescence. *Child Development*, *61*, 524–536.
- Edwards, W. (1955). The prediction of decision among bets. *Journal of Experimental Psychology*, *50*, 201–214.
- Eller, A., & Abrams, D. (2003). “Gringos” in Mexico: Cross-sectional and longitudinal effects of language school-promoted contact on intergroup bias. *Group Processes and Intergroup Relations*, *6*, 55–75.
- Festinger, L., & Kelley, H. (1951). *Changing attitudes through social contact*. Ann Arbor: Institute for Social Research, University of Michigan.
- Greenland, K., & Brown, R. (1999). Categorization and intergroup anxiety in contact between British and Japanese nationals. *European Journal of Social Psychology*, *29*, 503–521.
- Heise, D. R. (1975). *Causal analysis*. New York: Wiley.
- Herek, G. M., & Capitanio, J. P. (1996). “Some of my best friends”:

- Intergroup contact, concealable stigma, and heterosexuals' attitudes toward gay men and lesbians. *Personality and Social Psychology Bulletin*, 22, 412–424.
- Hewstone, M., & Brown, R. (Eds.). (1986). *Contact and conflict in intergroup encounters*. Oxford, England: Blackwell.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1–55.
- Huntington, S. P. (1993). The clash of civilizations? *Foreign Affairs*, 72, 22–49.
- Irish, D. P. (1952). Reactions of Caucasian residents to Japanese-American neighbors. *Journal of Social Issues*, 8, 10–17.
- Islam, M. R., & Hewstone, M. (1993). Dimensions of contact as predictors of intergroup anxiety, perceived out-group variability, and out-group attitude: An integrative model. *Personality and Social Psychology Bulletin*, 19, 700–710.
- Krosnick, J. A. (1988a). Attitude importance and attitude change. *Journal of Experimental Social Psychology*, 24, 240–255.
- Krosnick, J. A. (1988b). The role of attitude importance in social evaluation: A study of policy preference, presidential candidate evaluation, and voting behavior. *Journal of Personality and Social Psychology*, 55, 196–210.
- Krosnick, J. A. (1989). Attitude importance and attitude accessibility. *Personality and Social Psychology Bulletin*, 15, 297–308.
- Levin, S., Van Laar, C., & Sidanius, J. (2003). The effects of ingroup and outgroup friendships on ethnic attitudes in college: A longitudinal study. *Group Processes and Intergroup Relations*, 6, 76–92.
- Liebkind, K., Haaramo, J., & Jasinskaja-Lahti, I. (2000). Effects of contact and personality on intergroup attitudes of different professionals. *Journal of Community and Applied Social Psychology*, 10, 171–181.
- McGuire, W. J., & McGuire, C. V. (1996). Enhancing self-esteem by directed thinking tasks: Cognitive and affective positivity asymmetries. *Journal of Personality and Social Psychology*, 70, 1117–1125.
- McLaughlin-Volpe, T., Aron, A., Wright, S. C., & Reis, H. T. (2000). *Intergroup social interactions and intergroup prejudice: Quantity versus quality*. Manuscript submitted for publication.
- Oliner, S. P., & Oliner, P. M. (1988). *The altruistic personality: Rescuers of Jews in Nazi Europe*. New York: Free Press.
- Omoto, A. M., & Borgida, E. (1988). Guess who might be coming to dinner? Personal involvement and racial stereotyping. *Journal of Experimental Social Psychology*, 24, 571–593.
- Pettigrew, T. F. (1997). Generalized intergroup contact effects on prejudice. *Personality and Social Psychology Bulletin*, 23, 173–185.
- Pettigrew, T. F. (1998). Intergroup contact theory. *Annual Review of Psychology*, 49, 65–85.
- Pettigrew, T. F. (2001). Intergroup relations and national and international relations. In R. Brown & S. Gaertner (Eds.), *Blackwell handbook of social psychology: Intergroup processes* (pp. 514–532). Oxford, England: Blackwell.
- Pettigrew, T. F., & Meertens, R. W. (1995). Subtle and blatant prejudice in Western Europe. *European Journal of Social Psychology*, 25, 57–75.
- Pettigrew, T. F., & Tropp, L. R. (2004). *A meta-analytic test of intergroup contact theory*. Manuscript submitted for publication.
- Petty, R. E., & Cacioppo, J. T. (1986). *Communication and persuasion: Central and peripheral routes to attitude change*. New York: Springer Verlag.
- Petty, R. E., Cacioppo, J. T., & Goldman, R. (1981). Personal involvement as a determinant of argument-based persuasion. *Journal of Personality and Social Psychology*, 41, 847–855.
- Petzel, T. (2003). *Studies on authoritarianism*. Unpublished doctoral dissertation, Philipps-Universität, Marburg, Germany.
- Phinney, J. S., Ferguson, D. L., & Tate, J. D. (1997). Intergroup attitudes among ethnic minority adolescents: A causal model. *Child Development*, 68, 955–968.
- Powers, D. A., & Ellison, C. G. (1995). Interracial contact and black racial attitudes: The contact hypothesis and selectivity bias. *Social Forces*, 74, 205–226.
- Schneider, S. (1994). *Vorurteile gegenüber ethnischen Minderheiten in Ost und West* [Ethnic prejudice in East and West Germany]. Unpublished diploma thesis, Ruhr-Universität, Bochum, Germany.
- Sherif, M. (1966). *In common predicament*. Boston: Houghton Mifflin.
- Smith Castro, V. (2003). *Acculturation and psychological adaptation: Effects of acculturation strategies on self-esteem among Black and White adolescents in Costa Rica*. Westport, CT: Greenwood.
- Sobel, M. E. (1982). Asymptotic intervals for indirect effects in structural equation models. In S. Leinhardt (Ed.), *Sociological methodology* (pp. 290–312). San Francisco: Jossey-Bass.
- Stephan, W. G., Diaz-Loving, R., & Duran, A. (2000). Integrated threat theory and intercultural attitudes. *Journal of Cross-Cultural Psychology*, 31, 240–249.
- Tetlock, P. E. (2002). Social functionalist frameworks for judgment and choice: Intuitive politicians, theologians, and prosecutors. *Psychological Review*, 109, 451–471.
- Triandis, H. C., Bontempo, R., & Villareal, M. J. (1988). Individualism and collectivism: Cross-cultural perspectives on self–ingroup relationships. *Journal of Personality and Social Psychology*, 54, 323–338.
- van Dick, R., & Wagner, U. (1995). *Ergebnisse einer Befragung von Zivildienstleistenden* [Results of a questionnaire study among men doing their civil service]. Unpublished manuscript, Philipps-Universität, Marburg, Germany.
- van Dick, R., Wagner, U., Adams, C., & Petzel, T. (1997). Einstellungen zur Akkulturation: Erste Evaluation eines Fragebogens an sechs deutschen Stichproben [Acculturation attitudes: First evaluation of a questionnaire among six German samples]. *Gruppendynamik*, 28, 83–92.
- Wagner, U., Hewstone, M., & Machleit, U. (1989). Contact and prejudice between Germans and Turks: A correlational study. *Human Relations*, 42, 561–574.
- Wagner, U., van Dick, R., Pettigrew, T. F., & Christ, O. (2003). The explanatory power of intergroup contact: The East–West German case. *Group Processes and Intergroup Relations*, 6, 23–37.
- Wilson, T. C. (1996). Prejudice reduction or self-selection? A test of the contact hypothesis. *Sociological Spectrum*, 16, 43–60.
- Wolf, C. (2002). *Kontakt und Vorurteile: Eine experimentelle Studie zu Auswirkungen der Manipulation negativer und positiver Kontakterfahrungen* [Priming of positive and negative contact experiences with ethnic minority group members: Effects on the evaluation of contact and prejudice toward out-groups]. Unpublished diploma thesis, Philipps-Universität, Marburg, Germany.

## Appendix A

## Survey Items for the Assessment of Intergroup Contact

## Study 1

Please indicate whether you personally have contact with members of ethnic minority groups in the following areas: At university/workplace, in your neighborhood, among your friends, among your circle of acquaintance. (Answering scale: 1 = *never* to 6 = *very often*.)

How important are these contacts to you personally? (Answering scale: 1 = *not at all important* to 6 = *very important*.)

How do you perceive the personal contact you have with members of ethnic minority groups? Superficial, of equal status, pleasant, cooperative, voluntary. (Answering scale: 1 = *not at all correct* to 6 = *fully correct*.)

## Study 3

Please indicate whether you personally have contact with foreigners in the following areas: In your classroom, in your neighborhood, among your

friends, among your circle of acquaintance. (Answering scale: 1 = *never*, 2 = *seldom*, 3 = *often*, 4 = *very often*.)

How important are your contacts with foreigners? (Answering scale: 1 = *not at all important*, 2 = *not very important*, 3 = *rather important*, 4 = *very important*.)

## Study 4

Sample 1: identical to Study 3

Sample 2: identical to Study 3, but without classroom and neighborhood; answering scale with 6 points (Items 3 and 4 from *never* to *very often*; Item 5 from *not at all important* to *very important*).

Sample 3: identical to Sample 2. Instruction: "Please indicate whether you personally have contact with Germans in the following areas . . ."

Sample 4: identical to Study 3. Instruction: "Please indicate whether you personally have contact with people of other ethnic groups in the following fields . . ."

(Appendixes continue)

Appendix B  
Correlations, Means, and Standard Deviations for the Measured Variables in Study 1

Variable	M	SD	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. In classroom	4.41	1.30	.43**	.46**	.45**	.33**	.27**	.21**	.28**	.31**	.28*	-.20**	-.16*	-.07	.02	-.14	-.04	.02	.06	.03	-.09
2. In neighborhood	3.68	1.73	—	.43**	.40**	.41**	.30**	.09	.11	.20*	.25**	-.24**	-.23**	.00	-.16	-.04	-.06	-.09	.00	.09	-.01
3. Friends	4.16	1.45	—	—	.78**	.63**	.37**	.16*	.31**	.36**	.28**	-.19*	-.20**	-.21**	-.20*	-.13	.02	.00	-.04	.08	-.05
4. Acquaintances	4.49	1.29	—	—	.57**	.30**	.30**	.18*	.19*	.29**	.24**	-.24**	-.25**	-.25**	-.17*	-.17*	-.09	-.08	.01	.12	-.13
5. Importance	4.33	1.20	—	—	—	.36**	.24**	.24**	.43**	.43**	.46**	-.32**	-.42**	-.25**	-.31**	-.14	-.15	-.12	-.14	.07	-.11
6. Quality: superficial	4.33	1.47	—	—	—	—	.23**	.23**	.39**	.32**	.37**	-.16*	-.17*	-.17*	-.21**	-.09	-.03	-.04	-.01	.01	-.16*
7. Quality: equal	5.04	1.09	—	—	—	—	—	.47**	.47**	.52**	.38**	-.16*	-.17*	-.17*	-.03	-.01	-.06	.03	.09	.17*	-.05
8. Quality: pleasant	4.89	1.06	—	—	—	—	—	—	.70**	.66**	.66**	-.26**	-.29**	-.10	-.14	-.11	-.12	-.10	-.11	-.04	-.16
9. Quality: cooperation	4.71	1.10	—	—	—	—	—	—	.57**	.57**	.57**	-.32**	-.30**	-.22**	-.22**	-.17*	-.14	-.03	-.02	.08	-.11
10. Quality: voluntary	5.31	1.05	—	—	—	—	—	—	—	—	—	-.40**	-.39**	-.13	-.20*	-.12	-.22**	-.15	-.13	-.08	-.20*
11. Prejudice 1	3.08	1.20	—	—	—	—	—	—	—	—	—	—	.53**	.25**	.21**	.19*	.16*	.15	.09	-.04	.12
12. Prejudice 2	3.96	1.29	—	—	—	—	—	—	—	—	—	—	.20*	.20*	.30**	.30**	.20*	.25**	.09	.13	.07
13. Prejudice 3	1.98	1.32	—	—	—	—	—	—	—	—	—	—	—	—	.32**	.41**	.30**	.16*	.15	-.03	.09
14. Prejudice 4	4.01	1.55	—	—	—	—	—	—	—	—	—	—	—	—	—	.34**	.30**	.28**	.33**	.06	.18*
15. Prejudice 5	2.73	1.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	.34**	.15	.08	-.03	.07
16. Prejudice 6	3.31	1.45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	.45**	.31**	.14	.28**
17. Prejudice 7	4.31	1.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	.45**	.33**	.28**
18. Prejudice 8	5.11	0.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	.45**	.35**	.26**
19. Prejudice 9	4.71	1.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	.29**
20. Prejudice 10	4.51	1.26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Note. Range for all items: 1–6.  
\*  $p < .05$ . \*\*  $p < .01$ .

Appendix C  
Correlations, Means, and Standard Deviations for the Measured Variables in Study 2

Contact variable	M	SD	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. In classroom	2.99	.92	.15	.27**	.39**	.27**	.18	.12	.21*	.08	.00	.05	.00	.27**	-.07	.03	.28**	.17
2. In neighborhood	2.29	1.06	—	.46**	.18	.33**	.10	.33**	.35**	.01	.15	.04	.05	.02	.01	.13	.04	.20
3. Friends	2.55	.98	—	—	.64**	.40**	.34**	.39**	.62**	.18	.23*	.18	.27**	.02	-.02	.04	.15	.22*
4. Acquaintances	2.77	.90	—	—	—	.41**	.37**	.39**	.55**	.12	.16	.14	.14	.19	-.06	.08	.15	.11
5. Importance 1	2.78	.92	—	—	—	—	.67**	.80**	.50**	.20	.28**	.24*	.29**	.32**	.21*	.33**	.39**	.39**
6. Importance 2	3.29	1.03	—	—	—	—	—	.57**	.41**	.28**	.30**	.22*	.30**	.30**	.09	.31**	.31**	.28**
7. Importance 3	2.53	.94	—	—	—	—	—	—	.47**	.19	.26*	.19	.28**	.25*	.27**	.24*	.38**	.39**
8. Quality: superficial	2.35	.81	—	—	—	—	—	—	—	.38**	.42**	.47**	.39**	.25*	.05	.16	.35**	.26*
9. Quality: equal	1.58	.76	—	—	—	—	—	—	—	—	.59**	.62**	.71**	.08	.07	.12	.32**	.17
10. Quality: pleasant	1.74	.74	—	—	—	—	—	—	—	—	—	.73**	.72**	.03	.00	.04	.30**	.20*
11. Quality: cooperation	1.90	.69	—	—	—	—	—	—	—	—	—	—	.70**	.01	.05	.12	.35**	.21*
12. Quality: voluntary	1.60	.86	—	—	—	—	—	—	—	—	—	—	—	.00	.02	.06	.32**	.16
13. Goal: studies	2.12	1.11	—	—	—	—	—	—	—	—	—	—	—	—	.23*	.44**	.33**	.37**
14. Goal: cuisine	1.92	.95	—	—	—	—	—	—	—	—	—	—	—	—	—	.13	.03	.13
15. Goal: end of nose	3.22	.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	.40**	.62**
16. Goal: culture	3.36	.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	.60**
17. Goal: horizon	3.18	.80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Note. Range for all items: 1–4.  
\*  $p < .05$ . \*\*  $p < .01$ .

(Appendixes continue)

## Appendix D

Correlations, Means, and Standard Deviations for the Measured Variables in Study 3

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Classroom	1.7	1.0	—	.29**	.41**	.53**	.26**
2. Neighborhood	2.0	0.9		—	.33**	.37**	.25**
3. Acquaintances	1.9	0.9			—	.64**	.48**
4. Friends	1.9	1.0				—	.55**
5. Importance	2.3	0.9					—
Antipathy							
Turks	62.1	22.4	-.18**	-.17**	-.31**	-.34**	-.46**
“Aussiedler”	50.0	16.6	-.12**	-.12**	-.09**	-.17**	-.20**
Poles	60.6	23.1	-.32**	-.21**	-.31**	-.38**	-.36**
Refugees	60.6	19.9	.00	-.12**	-.21**	-.21**	-.42**
Sinti/Roma	71.3	21.8	-.14**	-.14**	-.28**	-.32**	-.38**
Vietnamese	63.2	23.3	-.19**	-.15**	-.31**	-.35**	-.45**
Immigration attitudes	2.6	0.7	-.17**	-.17**	-.35**	-.38**	-.52**

*Note.* Range for antipathy items, 10–100; range for all other items, 1–4.

\*\*  $p < .01$ .



Appendix E

Correlations, Means, and Standard Deviations for the Measured Variables in Study 4

Variable	<i>M</i>	<i>SD</i>	Correlations				
Sample 1 <sup>a</sup>							
			1	2	3	4	5
1. Work	2.3	0.8	—	.31**	.24**	.19*	.15
2. Neighborhood	2.1	0.9		—	.36**	.35**	.29**
3. Acquaintances	2.5	0.8			—	.65**	.53**
4. Friends	2.5	0.9				—	.56**
5. Importance	2.3	0.9					—
6. Subtle prejudice	2.6	0.4	-.10	-.08	-.19*	-.20*	-.40**
7. Blatant prejudice	1.9	0.6	-.12	-.13	-.29**	-.22*	-.34**
8. Acculturation attitudes	3.4	0.4	-.08	-.07	-.10	-.07	-.07
Sample 2 <sup>b</sup>							
					1	2	3
1. Acquaintances	4.6	1.7			—	.59**	.54**
2. Friends	3.8	2.1				—	.56**
3. Importance	4.2	1.5					—
4. Subtle prejudice	2.6	0.5			-.26**	-.17**	-.37**
5. Blatant prejudice	1.7	0.6			-.36**	-.28*	-.45**
6. Acculturation attitudes	4.5	0.9			-.30**	-.31**	-.45**
Sample 3 <sup>c</sup>							
			1	2	3	4	5
1. Work	3.0	0.9	—	.26*	.27*	.40**	.30**
2. Neighborhood	2.6	0.9		—	.58**	.64**	.18
3. Acquaintances	2.6	0.8			—	.59**	.11
4. Friends	2.8	0.9				—	.39**
5. Importance	3.2	0.7					—
6. Sympathy for Germans	5.2	2.4	-.01	-.02	-.06	.09	-.18
Samples 4 (majority group) and 5 (minority group) <sup>d</sup>							
			1	2	3	4	5
1. School							
Sample 4	3.1	0.9	—	.52**	.54**	.42**	-.15**
Sample 5	3.3	0.9		.44*	.53**	.25**	-.17**
2. Neighborhood							
Sample 4	2.9	1.0		—	.50**	.30**	-.10**
Sample 5	3.4	0.9			.49**	.17**	-.13**
3. Friends							
Sample 4	3.3	0.9			—	.28**	-.11**
Sample 5	3.5	0.8				.18**	-.15**
4. Importance							
Sample 4	3.1	0.8				—	-.30**
Sample 5	3.1	0.8					-.18**
5. Separation							
Sample 4	2.6	1.2					—
Sample 5	2.8	1.3					—

<sup>a</sup> Range for acculturation attitudes, 1–5; for subtle and blatant prejudice and contact items, 1–4. <sup>b</sup> Range for acculturation attitudes and contact items, 1–6; for subtle and blatant prejudice, 1–4. <sup>c</sup> Range for sympathy for Germans, 1–10; for contact items, 1–4. <sup>d</sup> Range for separation attitudes, 1–6; for contact items, 1–4.  
 \*  $p < .05$ . \*\*  $p < .01$ .