

Social Network Integration: A Comparison of Same-Race and Interracial Roommate Relationships

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ABSTRACT

The purpose of the study was to identify factors that promote the integration of an outgroup member into an individual's social network, thus enhancing extended contact. White freshmen randomly assigned to either a White or Black roommate completed measures of intergroup anxiety and roommate relationship quality at the beginning of their first term at college. At the end of the term, participants reported the extent to which their roommate was integrated into their social network. In general, Black roommates were less integrated into the White participants' social networks than White roommates. However, roommate integration also depended on relationship quality and intergroup anxiety. For those with lower quality roommate relationships, integration was generally low. For those with higher quality relationships, lower intergroup anxiety enhanced the likelihood of the integration of a Black roommate relative to a White roommate. The results highlight factors that may facilitate or inhibit extended contact.

Keywords: extended contact, cross-group friendships, intergroup anxiety

The extended contact hypothesis was proposed by Wright and colleagues (1997) as an extension of the contact hypothesis (Allport, 1954). The primary premise of extended contact is that direct exposure is not the only means of prejudice reduction. Indirect or vicarious exposure to intergroup interactions can also lead to prejudice reduction. That is, knowledge that an ingroup member has cross-group friendships may lead to a reduction in negative attitudes toward the outgroup. Although the precise conditions under which extended contact proves beneficial have yet to be determined (see Feddes, Noack, & Rutland, 2009), a number of studies have provided evidence in support of the extended contact effect in both adults (e.g., Paolini, Hewstone, Cairns, & Voci, 2004; Pettigrew, Christ, Wagner, & Stellmacher, 2007; Turner Hewstone, & Voci, 2007) and children (Cameron, Rutland, Brown, & Douch, 2006; De Tezanos-Pinto, Bratt, & Brown, in press; Liebkind & McAlister, 1999).

Wright et al. (1997) proposed three mechanisms by which extended contact might reduce prejudice. First, the ingroup member who has a cross-group friendship may provide a positive example and set norms of tolerance and reduced bias. Second, the outgroup friend may serve as a positive exemplar of their group and provide information about the outgroup's attitude toward the ingroup. Finally, extended contact may lead to inclusion of the outgroup friend in the self. As the outgroup friend is part of the ingroup friend's self, the outgroup friend becomes part of the ingroup member's self. Turner and colleagues (2008) tested each of these mechanisms as a mediator of the relation between extended contact and reduced prejudice. In two cross-sectional studies, they found that all three factors mediated the relationship, as did intergroup anxiety. That is, extended contact was related to lower levels of intergroup anxiety, which in turn was related to lower levels of prejudice. More recently, De Tezanos-Pinto and colleagues (in press)

also found support for ingroup norms and intergroup anxiety as mediators of the relation between extended contact and reduced prejudice in a large sample of Norwegian school children.

To date, the work examining extended contact has focused on distinguishing extended contact from direct contact, demonstrating the effect of indirect contact, and testing mediators and moderators. We pursued a different question in the present research. We considered factors that might facilitate or inhibit the opportunity for extended contact and its growth across a larger number of individuals. For any effect of extended contact to occur, an individual must be aware that an ingroup member, usually an ingroup friend, has cross-group friendships. Presumably, the ingroup friend talks about the outgroup friend and/or the individual observes the ingroup friend interacting with the outgroup member. Thus, the knowledge and/or exposure to the intergroup interaction is crucial. For this to occur, the outgroup member must be somewhat integrated into the ingroup members' social network, thereby allowing for the individual to be privy to the cross-group friendship and experience extended contact. Moreover, the more the outgroup member penetrates the ingroup member's social network, the more likely it is that the network friends will have direct contact with the outgroup friend, which may lead to extended contact for the members of their social networks. That is, the greater the integration into a single social network, the greater the likelihood of direct contact with those social network members and the greater the likelihood of extended contact to the friends' social networks and a larger number of individuals. In other words, the potential impact of the outgroup friend spreads to an ever increasing number of others, the more the outgroup member is integrated into a given ingroup member's social network. Given this reasoning, we were interested in determining what factors would lead to integration of an outgroup friend into an individual's social network, potentially exposing their ingroup friends to indirect contact.

To explore this question, we examined the extent to which White students randomly assigned to either a White or a Black freshman roommate incorporated their roommates into their friendship networks. Specifically, we measured how well students' close friends knew their roommate and what factors influenced social network integration. The freshmen dormitory roommate relationships provided an ideal setting to examine social network integration, because the relationships were new and could be tracked over time. Thus, we could determine what factors at the beginning of the relationship were associated with later social network integration. The predictor variables on which we decided to focus were quality of the roommate relationship and intergroup anxiety.

Presumably, for an individual to be incorporated into one's social network, the individual would be a friend or, at least, the relationship would be perceived as positive. This may be particularly significant as interracial roommate relationships are generally more difficult and less satisfying than same-race roommate relationships (Phelps, Altschul, Wisenbaker, Day, Cooper, & Potter, 1998; Shook & Fazio, 2008; Towles-Schwen & Fazio, 2006), despite the generally observed benefit of prejudice reduction among students living with a roommate of another race/ethnicity (e.g., Shook & Fazio, 2008; Van Laar, Levin, Sinclair, & Sidanius, 2005). If the quality of the intergroup roommate relationship is relatively negative, then students may be less likely to integrate their outgroup roommate into their friendship network. Thus, there would be a reduced opportunity for extended contact.

The second factor that was considered a catalyst for social network integration was intergroup anxiety. Intergroup anxiety has been highlighted as playing a key role in intergroup contact effects. It has been found to mediate prejudice reduction via direct contact (e.g., Binder et al., 2009; Paolini et al., 2004; Voci & Hewstone, 2003) and indirect contact (De Tezanos-Pinto

et al., in press; Paolini et al., 2004; Turner et al., 2008), as well as predict the development of cross-group relationships (e.g., Levin, Taylor, & Caudle, 2007). Moreover, intergroup anxiety has been associated with avoidance of intergroup interactions (e.g., Plant & Devine, 2003; Stephan & Stephan, 1985). As such, intergroup anxiety may also predict social network integration. The more open an individual is to intergroup interactions and the fewer negative expectations that he or she has about such experiences, the more inclined an individual may be to initiate intergroup interactions within his or her social network. Such individuals may be less anxious about integrating their friendship network, rather than keeping friends from different groups separate.

It was expected that roommate relationship quality and intergroup anxiety would predict social network integration in an interracial room. That is, participants who reported a higher quality roommate relationship and had less intergroup anxiety would be more inclined to incorporate their outgroup roommate into their social network. Participants with a same-race roommate served as a comparison group to ensure that any effects were specific to cross-group relationships and, thus, had consequences for extended contact. As intergroup anxiety was not relevant for same-race roommate living situations, this factor was not expected to predict social integration within the comparison group. However, roommate relationship quality was expected to predict social network integration in same-race rooms, as relationship quality is relevant regardless of relationship type (same-race or interracial).

Method

Participants. White freshmen randomly assigned to either an African American ($N = 127$) or White ($N = 136$) freshman roommate were recruited in the beginning of the Autumn quarter. Participants were contacted via e-mail or telephone and asked to participate in a two-

session study concerning adjustment to college life. For their time, they received either \$25 or partial course credit. Six participants did not return for the second session, and two participants were excluded from the analyses due to missing data.

Measures. The participants completed two one-hour experimental sessions within the first and last two weeks of their first quarter of college. During each session, participants completed questionnaires regarding the roommate relationship and intergroup anxiety, as well as a number of other measures related to a larger research project.¹ At the second session, participants also completed a questionnaire to assess the degree to which their roommate was involved in their social network.

Roommate Relationship. Two measures were used to assess the quality of the roommate relationship. First, participants were provided with seven items about their satisfaction with their roommate (e.g., “I am extremely happy with my roommate.”) for which participants indicated the extent to which they agreed with each statement on a scale from 0 (Not at all) to 9 (Very much). The seven items were averaged to represent roommate satisfaction ($\alpha = .96$). Second, participants were provided with eleven common activities (e.g., run errands, watch television) for which they indicated the frequency with which they did each activity with their roommate on a scale from 0 (Never) to 8 (More than once per day). Again, the items were averaged to represent frequency of interaction with their roommate ($\alpha = .90$). Roommate satisfaction and interaction were highly correlated ($r = .76$), so the indices were standardized and a composite score was created to represent quality of the roommate relationship.

Intergroup Anxiety. Britt and colleagues’ (1996) intergroup anxiety toward African Americans scale was used to assess participants’ outcome expectancies when interacting with African Americans. The scale consists of eleven items regarding anxiety from interacting with

African Americans (e.g., “I would experience some anxiety if I were the only white in a room full of blacks.”). Participants were asked to indicate to what degree they agreed with each statement on a scale from 0 (Strongly disagree) to 4 (Strongly agree). The necessary items were reverse coded, and the eleven items were averaged. Higher scores indicated greater intergroup anxiety ($\alpha = .89$).

Social Network Integration. Roommates’ involvement in the participants’ social networks was assessed by queries regarding how well the participants’ friends and roommate knew one another (see Towles-Schwen & Fazio, 2006, for further details). Participants were asked to indicate the two individuals with whom they spent the most time other than their roommate. Participants then rated to what extent their roommate and each of these two friends knew one another on a scale from 0 (Don’t know each other) to 5 (Our friends are the same). Responses regarding the two friends were highly correlated ($r = .54$), so these two ratings were averaged to represent the degree to which the roommate was integrated into the participant’s social network.

Procedure. When participants arrived for the first session, they were told that the project concerned adjustment to college life. After providing informed consent, participants completed several computer tasks and the questionnaire packet, which contained the roommate relationship questions and the intergroup anxiety scale along with a variety of filler items concerning college life. At the end of the session, participants were paid \$10 or given one hour of research experience credit for their time.

During the last two weeks of the Autumn quarter, participants returned to the lab for the second session. The procedure was identical to that for the first session, except that participants also completed the social network integration measure in the questionnaire packet. Participants

were debriefed and informed of the true nature of the project. Any questions or concerns that they had were addressed. Finally, they were paid \$15.00 or given one and one-half hours of research credit for completing the second session.

Results

Differences as a function of room type. First, we conducted a series of independent *t*-tests to examine differences between the two room type conditions (same-race vs. interracial). Within-condition means and standard deviations for each session one variable and for the session two outcome variable are presented in Table 1. At time one, there was no difference in intergroup anxiety ($t < 1$) between the two groups. However, participants did report a higher quality roommate relationship in a same-race room than in an interracial room, $t(261) = 5.22, p < .001$. This pattern has been found in previous research and is indicative of the relative difficulty of even initial intergroup relationships as compared to same-race relationships (Phelps et al., 1998; Shook & Fazio, 2008; Towles-Schwen & Fazio, 2006).

At time two, White roommates were more integrated into the participants' social networks than Black roommates, $t(253) = 3.55, p < .001$. Just as expected then, on average, interracial roommates were characterized by relatively less social network integration.

Predictors of Social Network Integration. As social network integration varied by room type, correlational analyses were run separately for the two conditions examining the associations among social integration at the end of the quarter, roommate relationship quality at the beginning of the quarter, and intergroup anxiety at the beginning of the quarter. Fisher's *Z* transformations were conducted in order to compare the strength of the correlation coefficients between the two groups. The within-condition correlations among the three variables are presented in Table 2, along with the significance of the coefficient comparisons. For participants

in a same-race roommate relationship, the only significant predictor of roommate integration was roommate relationship quality. Those in more positive roommate relationships reported more social network integration. For participants in interracial roommate relationships, roommate quality was also a significant predictor of roommate integration. The strength of roommate relationship quality as a predictor did not differ between the two groups. However, intergroup anxiety toward African Americans was inversely correlated with roommate integration in interracial roommate relationships. Participants who reported more intergroup anxiety at the beginning of the quarter reported less integration of their Black roommate into their social network at the end of the quarter. This correlation was significantly different from the relation found in same-race rooms. Also, of note, roommate relationship quality related to intergroup anxiety in interracial rooms. Those with less intergroup anxiety reported more positive interracial roommate relationships. Although this relation was not significant in same-race rooms, the two groups did not significantly differ in the strength of this particular association.

To further explore the study's primary hypotheses, hierarchical regression analyses were conducted predicting social network integration from Room Type, Roommate Relationship Quality at session one, Intergroup Anxiety at session one, and their interaction terms. A main effect of Roommate Relationship Quality was evident ($B = .59$), $t(249) = 8.44$, $p < .001$. Participants who reported more positive roommate relationships were more likely to integrate their roommates into their social networks. However, this main effect was qualified by a three-way interaction between Room Type, Roommate Quality at session one, and Intergroup Anxiety at session one ($B = -.41$), $t(245) = 2.39$, $p < .05$ (see Figure 1). For those who initially reported more negative roommate relationships, intergroup anxiety did not predict the extent to which the roommate was integrated in the participants' social network. Rather, integration was generally

low and did not differ as a function of room type, $t < 1$. However, for those who reported a more positive initial roommate relationship, room type and intergroup anxiety did matter, ($B = -.75$), $t(245) = 2.83, p < .01$. More anxious participants were less likely to integrate their roommates into their social networks if their roommate was Black rather than White, ($B = 1.33$), $t(245) = 2.33, p < .05$. In contrast, for those with relatively low intergroup anxiety, roommate race did not influence network integration, ($B = .16$), $t(245) = .70, p = .48$.

Discussion

The current research asked a novel question about extended intergroup contact. Rather than assessing the effects of indirect contact or potential mediators of such effects, we focused on a precursor to extended contact, i.e., the degree to which outgroup members are incorporated into individuals' social networks. Indeed, social network integration of an outgroup member seems a necessary antecedent for extended contact. There must be a minimal level of acceptance into a social network for ingroup members to be aware of and/or exposed to a cross-group friendship. Thus, the current study focused on factors that facilitate or inhibit such integration and, in turn, the potential opportunity for extended contact.

In general, social network integration was significantly lower in interracial roommate relationships than same-race roommate relationships. That is, participants' closest friends were less acquainted with a Black roommate than with a White roommate. Also, participants' intergroup anxiety was associated with social network integration in interracial rooms, but not same-race rooms. Specifically, intergroup anxiety was inversely related to integration of a Black roommate into participants' friendship networks. However, regardless of roommate race, relationship quality was a strong predictor of social network integration. Participants who evaluated their roommate relationship positively reported more friendship integration.

More interestingly, social network integration was predicted by an interaction among room type, roommate relationship quality, and intergroup anxiety. For participants who evaluated their roommate relationship negatively early in the academic year, integration of the roommate into their social network was generally low later in time. However, for those who rated their roommate relationship positively, integration depended on intergroup anxiety and roommate race. For those low in intergroup anxiety, roommate race did not matter. For those high in intergroup anxiety, integration of a Black roommate into their friendship network was lower than for a White roommate. Despite reporting a positive roommate relationship, concerns about intergroup interactions were associated with less knowledge of the Black roommate by the participants' closest friends.

These findings highlight some factors that may serve as barriers or aids to cross-group friendships and the integration of outgroup friends into an individual's social network. Moreover, these results were found in a real-world situation in which participants were randomly assigned to a living situation, so new relationships could be assessed as they developed over the course of three months. Thus, given the experimental, longitudinal nature of the work, a causal direction can be inferred from the findings. Furthermore, the research has implications for naturally occurring cross-group friendships, social network integration, and extended contact. Of importance is the fact that relationship quality alone does not necessarily lead to incorporation of an outgroup friend into an individual's social network. Concerns about intergroup interactions may reduce the likelihood of integration even for a positively evaluated cross-group friendship. Yet, without integration, the benefits of extended contact may not be experienced.

As extended contact was not assessed in the present study, the association between social network integration and extended contact is speculative. However, theoretically and intuitively,

social network integration is a precursor to indirect contact and, hence, should influence the effectiveness of extended contact. Network integration forecasts the number of individuals who are likely to have extended contact with the outgroup member. The more that the outgroup member has been absorbed into the social network, the more friends and friends of friends who are potentially affected by the original cross-group relationship.

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Footnotes

1. The Motivation to Control Prejudiced Reactions Scale (Dunton & Fazio, 1997), a feeling thermometer, and an implicit measure of racial attitudes (Fazio, Jackson, Dunton, & Williams, 1995) were also included in both experimental sessions. However, none of these measures predicted eventual social network integration as main effects or interactions. Also, the primary findings remained significant when the implicit or explicit measures of prejudice were included in the regression analysis. Thus, consideration of these measures was not included in the main text.

Table 1.

Variable Means and Standard Deviations by Condition

Variables	Same-Race Rooms (<i>N</i> = 134)	Interracial Rooms (<i>N</i> = 121)
Relationship Quality (Session 1)	.30 (.94)	-.32 (.97)
Intergroup Anxiety (Session 1)	1.44 (.74)	1.49 (.81)
Roommate Integration (Session 2)	2.44 (1.16)	1.92 (1.15)

Standard deviations are within parentheses.

Table 2.

Within-Condition Correlations

Correlated Variables	Same-Race Rooms (<i>N</i> = 134)	Interracial Rooms (<i>N</i> = 121)	Fisher's z-test
Roommate Integration (S2) and Relationship Quality (S1)	.43**	.49**	<i>p</i> = .55
Roommate Integration (S2) and Intergroup Anxiety (S1)	.07	-.22*	<i>p</i> = .02
Intergroup Anxiety (S1) and Relationship Quality (S1)	-.15	-.34**	<i>p</i> = .11

* *p* < .05, ** *p* < .01

Note. The relationship quality and intergroup anxiety variables were measured in the first session (S1) and roommate integration in the second session (S2).

Figure Caption

Figure 1. Session Two roommate integration as a function of room type, Session One roommate relationship quality, and Session One intergroup anxiety at values one standard deviation above and below the means.

Figure 1.

