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Abstract

From a contact theory perspective, links between variation in young adults' perceptions of communication with their grandparents and attitudes toward older adults are examined. The analysis pays particular attention to variation in communication with multiple grandparents and finds links between that and perceived variability in the older adult population as a whole. More variation in perceptions of communication with grandparents is associated with perceptions of older adults as more heterogeneous. However, variation in grandparent relationships is associated with more negative attitudes toward older adults on measures of attitudinal central tendency. The results are discussed in terms of intergroup communication processes, contact theory and possible interventions to reduce prejudice in this and other contexts.

Keywords: intergenerational communication, grandparent-grandchild relations, contact theory, attitudes toward older adults, intergroup prejudice

A well-documented demographic shift in the upcoming years will be the substantial growth in the world's older adult population. In North America, the population of adults over the age of 60 is expected to grow from approximately 16% of the population in 1995 to more than a quarter (27.4%) of the population in 2050 (Hayward & Zhang, 2001). While much of the concern regarding this demographic shift has focused on economic and

healthcare issues such as social security and Medicare, the social and relational implications have received less attention. Specifically, with this increase in the aging population, intergenerational relationships within and outside the family will undoubtedly increase. Sadly, intergenerational contact is often tainted by age-based prejudice, which is prevalent around the world (Giles, 1999; Harwood et al., 1996, 2001). Hence, the significance of age-based prejudice as a social problem provides an important area of applied research and inquiry for social scientists. Prejudice against those from other groups plagues most societies and can result in intergroup conflict as well as inequality in access to resources for marginalized groups. Communication scholars have much to contribute to understanding the origins of intergroup prejudice and offering suggestions for its reduction. Research that focuses on the origins of age-based prejudice as well as possible interventions for alleviating ageist attitudes is needed. In that vein, this research investigated potential communicative origins of age-based prejudice. We examined whether experiences in the grandparent-grandchild relationship are related to perceptions of all older adults.

In the last two decades, research has emerged examining younger and older adults' communication in intergenerational interaction. Much of the research has focused on younger adults' negative and positive stereotypes of older adults (Caporael, 1981; Coupland, Coupland, Giles, & Henwood, 1988; Hummert, 1990, 1994) and their effects on intergenerational communication (Ryan, Giles, Bartolucci, & Henwood, 1986; Ryan, Hummert, & Boich, 1995) and older adults' well-being (Adams & Blieszner, 1995; O'Connor & Rigby, 1996). Most of this work has been grounded in communication accommodation theory (CAT), which addresses the ways in which individuals adjust their communication styles and behaviors based on perceptions of an interlocutor (Gallois, Giles, Jones, Cargile, & Ota, 1995; Giles, Coupland, & Coupland, 1991; Shepard, Giles, & LePoire, 2001). The current article builds on this research in two ways. First, most previous research has examined the effects of stereotypes on communication. Here, we look at the ways in which intergenerational communication processes may initially influence those stereotypes. In other words, our applied concern is with the communicative origins of age prejudice. Second, most previous work has focused on intergenerational communication between strangers. This study examines communication in the grandparent-grandchild relationship.

For most individuals, the most common intergenerational interaction occurs within the family (Szinovacz, 1998). In fact, more children and adults have living grandparents today than at any time in history (Mares, 1995). Furthermore, this relationship is typically characterized by positive interaction (Ng, Liu, Weatherall, & Loong, 1997) and parental support. Hence, in sharing a common family identity, the grandparent-grandchild relationship is one of the few contexts in which most younger people have relatively close and comfortable intergenerational contact. In an applied sense, grandparent-grandchild communication is more important than intergenerational communication between strangers because it occurs more frequently. Furthermore, these relationships can be influential in the development of grandchildren's beliefs and values (Brussoni & Boon, 1998). Therefore, this examination focuses on ways in which perceptions of communication with grandparents are associated with younger adults' attitudes toward older people as a group—attitudes which are predominantly and unabashedly negative (Giles, 1999; Kite & Johnson, 1988; Perdue &

Gurtman, 1990). In contrast with much work on intergroup attitudes, this study examines whether intergenerational communication influences the valence of attitudes, and whether it affects perceptions of outgroup homogeneity.

Theoretical Foundation

Communication Accommodation Theory and the Grandparent-Grandchild Relationship
Communication accommodation theory (CAT) focuses on the ways in which individuals adjust their communication in response to the perceived needs, capabilities, and expectations of conversational partners (Shepard et al., 2001). The central concepts of CAT focus on the manner in which individuals accommodate (that is, appropriately adjust communication to fit the partner's needs), overaccommodate (that is, alter communication in excess of what is needed), or underaccommodate (that is, fail to adjust communication) in interactions. Findings from CAT-based intergenerational communication research emphasize the degree to which younger adults' negative stereotypes have negative consequences for older adults (Ryan et al., 1986; Ryan et al., 1995). Grounded in CAT, the communication predicament model of aging (Ryan et al., 1986) describes the way in which patronizing speech directed at older adults from younger adults is typically triggered by a stereotype of older adults as cognitively deficient rather than the actual capabilities of the older adult present in the interaction. Not only does the younger adult's behavior constrain the older adult's opportunities for communication, but it may reinforce the stereotype for both the younger adult and the older adult, resulting in negative consequences for older adults such as lower levels of self-esteem and self-stereotyping behavior.

In addition to the negative consequences of overaccommodative behaviors for older adults, research also suggests that the extent to which younger and older adults accommodate and perceive their partners to be accommodative is related to satisfaction in non-family intergenerational interactions (Harwood & Williams, 1998). Conversely, underaccommodation and overaccommodation are associated with dissatisfaction (Williams & Giles, 1996; Williams et al., 1997). Hence, research grounded in CAT has uncovered various behaviors related to positive and negative outcomes as well as evaluations of intergenerational interactions. Recent work utilizing CAT (Harwood, 2000a; Lin & Harwood, 2003) has focused on the intergenerational interactions within the grandparent-grandchild relationship.

As previously stated, the chance of having a living grandparent is higher in today's society than in the past (Mares, 1995), and grandparent-grandchild relationships are lasting longer than ever. For a majority of younger adults, the first and most frequent contact with older adults occurs in the grandparent-grandchild relationship (Szinovacz, 1998). Research suggests that the grandparent-grandchild relationship is important within the family. Grandchildren who have strong relationships with their grandparents engage in more activities with them, perceive more benefits in spending time with the grandparent, and are more likely to be influenced by the grandparent's values and beliefs (Brussoni & Boon, 1998). Grandparents can serve as important sources of information about family history, and can provide younger adults with an alternative source of social support in the family (Lin,

Harwood, & Bonneson, 2002; Nussbaum & Bettini, 1994). Close grandparent-grandchild relationships can also benefit the grandparent, providing increased engagement and enhanced mental health (Kivnick, 1982).

As with nonfamily intergenerational contact, dimensions of communication accommodation have been found to be related to satisfaction in the grandparent-grandchild relationship. Harwood (2000a; Lin & Harwood, 2003) found that communication accommodation is associated with grandparent-grandchild relational strength. Traditional perceptions of grandparenthood have been expanded in terms of the variety of factors that define the grandparent-grandchild relationship (such as the relationship between grandparent and parents, lineage, marital status, distance) and the family roles of grandparents (such as fun-seeker, surrogate; Mares, 1995; Uhlenberg & Hammill, 1998). In short, research indicates that the grandparent-grandchild dyad can be complex and offers a wide variety of communication experiences and opportunities. The current research examines whether some of this diversity might contribute to more diverse perceptions of older adulthood among younger people. This hypothesis is grounded in historical conceptions of intergroup contact theory.

Intergroup Contact Theory

Since Allport's (1954) seminal book on intergroup relations, the notion that contact between different groups might improve attitudes has been examined in detail (Pettigrew, 1998). Limitations to the naive version of the theory (that is, that any intergroup contact is good) have been repeatedly demonstrated, and researchers have focused on the conditions under which contact might be successful and have generalized effects beyond the specific situation. For instance, it has been shown that conditions of equal status (Cook, 1978), pleasant interaction (Amir, 1976), successful cooperation on a task (Cook, 1978), perception of a common ingroup identity (Gaertner & Dovidio, 2000), and institutional support for contact all facilitate positive outcomes in the immediate context (Pettigrew, 1998). Recent work has begun to show that positive outcomes in a contact situation can extend to evaluations of the outgroup as a whole when certain conditions hold. For instance, Hewstone (Hewstone & Brown, 1986; Hewstone & Lord, 1998) shows that salience of group memberships and perceived typicality of the outgroup member are important elements affecting generalization. When group memberships are salient (that is, individuals perceive each other as members of a social group rather than on a purely personal level), attitudes toward specific outgroup members are more likely to be connected to the cognitive representation of the entire outgroup, and hence that representation is more likely to be changed (see also Rothbart & John, 1986). The current study examines whether perceptions of communication with grandparents are associated with cognitive representations of older adults as a group. The specific communicative dynamics of intergroup contact have received very little attention. In addition, research rarely examines intergroup contact in the context of personal relationships, although this may be a profitable avenue for exploration (Pettigrew, 1997; Rothbart, 2001). Finally, little research has examined the effects of contact on perceptions of outgroup homogeneity.

According to Tajfel and Turner (1986), social identity consists "of those aspects of an individual's self-image that derive from the social categories to which he perceives himself

as belonging" (p. 16). Individuals categorize people (including themselves) into social in-groups and outgroups (such as European American/African American, younger/older adults). Ingroups are those in which an individual claims membership (identifies). Group identification is contingent on a societal awareness of group presence, a cognitive awareness of group membership, an awareness of the potential consequences of group membership, and an emotional investment in this membership. Social categorization can lead to intergroup comparison and discrimination in favor of the ingroup (Tajfel, 1982). One effect of this intergroup comparison is the outgroup homogeneity effect. People perceive outgroup members as fairly homogeneous (Brauer, 2001; Jones, Wood, & Quattrone, 1981; Linville, Fischer, & Yoon, 1996). One explanation for this is that familiarity with the ingroup causes a member to view outgroup members collectively and ingroup members more individually, thus increasing the tendency to differentiate between ingroup members (Linville, Salovey, & Fischer, 1986; Park & Rothbart, 1982). Linville, Fischer, and Salovey (1989) found this effect in perceptions of various groups, and showed that familiarity with the outgroup increased perceptions of outgroup variability. This suggests that stereotypes may be altered based on contact with members of the outgroup. However, this is not to suggest that the stereotype disappears. Rather, individuals may still endorse the stereotypes, but realize that not all outgroup members possess the specific attribute or behavior (Worchel & Rothgerber, 1997). Work by Hamburger (1994) has also demonstrated that contact with atypical outgroup members has the potential to enhance perceptions of outgroup variability.

The cognitive process underlying perceptions of outgroup variability is related to the subgrouping of the outgroup. Subgrouping of the outgroup refers to the development of multiple substereotypes that are connected to the broader representation of the group. Specifically, perceptions of outgroup variability tend to increase when individuals describe more subgroups of the outgroup, are provided with information that directs them to form more subgroups, or are given directions that lead them to form subgroups (Maurer, Park, & Rothbart, 1995; Park, Ryan, & Judd, 1992; Richards & Hewstone, 2001). Providing information which disconfirms the stereotype, especially when it is dispersed across a number of otherwise representative group members, tends to increase subgrouping and decrease perceptions of outgroup homogeneity (Brewer & Miller, 1988; Hewstone & Hamberger, 2000; Weber & Crocker, 1983). The presence of cognitive subgroups of the older adult stereotype has been demonstrated in detail by Hummert (1990; Hummert, Garstka, Shaner, & Strahm, 1994).

Reducing perceptions of outgroup homogeneity is a worthy goal. Richards and Hewstone (2001) note that perceptions of outgroup variability indicate that the stereotype is more flexible, and may be a first stage in the elimination of prejudicial attitudes. For outgroups perceived as more variable, the stereotype is less useful in making judgments in interpersonal settings (Ryan, Park, & Judd, 1996). Indirect evidence also suggests that those with more variable perceptions of the outgroup may be less likely to remember stereotype-consistent information (Pendry & Macrae, 1999), and may have stereotypes that are more susceptible to change (Hewstone & Hamberger, 2000). In other words, the negative effects of stereotyping may be less likely if the stereotype itself is more heterogeneous. Decreasing the homogeneity of perceptions of outgroup members is also important in that it effectively

increases the realism or accuracy of outgroup perceptions. Variable cognitive representations of groups are by definition more complex, differentiated and nuanced.

Contact Theory and the Grandparent-Grandchild Relationship

The grandparent-grandchild relationship is an appropriate context in which to examine links between intergroup communication and intergroup attitudes. In particular, the relationship is notable as one naturally occurring context for intergroup interaction in which many of the traditional facilitating conditions for contact tend to be in place. The relationship is one of relatively equal status, predominantly positive interactions (Ng et al., 1997), substantial institutional support (parents generally encourage grandparent-grandchild communication; it is socially approved), and a context in which a common ingroup identity is readily available (that is, the family identity). The contact also occurs as part of a long-term relationship, another feature that has been found to be associated with attitude change (Hamberger & Hewstone, 1997; Pettigrew, 1997; Wright, Aron, McLaughlin-Volpe, & Ropp, 1997). Furthermore, it is a context in which the relative age group memberships are salient: the prototypical grandparent displays physical features of old age, and the role is often associated with age in terms of dispensing wisdom, talking about historical events, and the like (Harwood, 2000b; Harwood & Lin, 2000; Hewstone, Paolini, Cairns, Harwood, & Voci, 2002; Nussbaum & Bettini, 1994). Younger adults also have fairly frequent contact with grandparents, which is important given the scarcity of other intergenerational contact (Ng et al., 1997; Rothbart & John, 1993).

That said, research examining the effect of the grandparent-grandchild relationship on ageist attitudes is inconclusive. Some studies find that more positive contact with grandparents results in more positive attitudes toward aging (Baranowski, 1982; Hale, 1998; Knox, Gekoski, & Johnson, 1986; Silverstein & Parrott, 1997). However, a similar volume of research has found no evidence that contact with grandparents affects attitudes toward older people (Caspi, 1984; Doka, 1985–1986; Ivester & King, 1977; Weinberger & Millham, 1975). These inconsistent findings may be a result of inattention to factors that mediate and moderate the effects of contact (Harwood, 2000b; Hewstone et al., 2002).

The current study takes a different perspective from the previous work. Most research has examined a single grandparent relationship, or an average level of positivity or negativity across grandparent-grandchild relationships. No studies have investigated variability across multiple grandparent-grandchild relationships as it relates to general attitudes toward older adults. Variability in these relationships is crucial for a number of reasons. First, it bears a more direct logical connection to perceptions of outgroup homogeneity than average measures of contact quality. We expect variability in experiences with outgroup members to be more strongly associated with perceptions of outgroup diversity than measures of central tendency. Interestingly, virtually no work in contact theory has examined variability in the nature of the contact experienced, although some research has examined the distribution of stereotype-disconfirming information across a number of outgroup targets, generally in experimental contexts (Weber & Crocker, 1983). Second, when we consider the applied implications of this kind of research, manipulating individuals' perceptions of variability in their intergroup contacts may be easier to accomplish than manipulating the perceived valence of such contact. Put bluntly, it may be very difficult to

convince people that they had a better time than they thought they did in a particular context, and hence it will be difficult to achieve attitude change through manipulating the average level of quality of contact. It should be easier to make people aware of the differences between particular encounters in which they have participated. If we find a link between variability in communication with outgroup members and perceptions of outgroup heterogeneity, then it might be possible to design simple interventions that enhance perceptions of variability in such encounters. Such interventions should increase perceptions of outgroup heterogeneity, thus providing a salve for one dimension of outgroup prejudice.

Based on the tenets of the traditional intergroup contact theory and our argument above, our two hypotheses concern the extent to which the average quality of grandparent-grandchild contact is associated with the valence of intergenerational attitudes, and whether variability in grandparent relationships is related to perceived variability in older adults as a group.

> H1: More positive perceptions of communication experiences with grandparents will be related to more positive attitudes toward older adults.

> H2: More perceived variation in grandparent-grandchild communication will be associated with increased perceptions of heterogeneity among older adults.

We also investigate the possibility that variability in grandparenting relationships might be associated with the valence of intergenerational attitudes (RQ1) and whether the valence of grandparent contact is associated with perceptions of homogeneity among older adults (RQ2). Theoretically, the links behind these two research questions are less clear. However, we see increases in perceived outgroup heterogeneity as positive, for the reasons outlined earlier. Given this, it is important to understand any relationships between variability in intergroup contact and valence of attitudes. If variable contact is associated with perceived outgroup variability and positive attitudes, then enhancing perceived variability in contact would be a clearly beneficial course for improving attitudes along multiple dimensions. However, if variability in grandparent-grandchild relationships is negatively associated with the central tendency measures of attitudes, subsequent interventions would need more careful consideration and design.

By addressing these hypotheses and research questions, the current study aims to: (a) understand better the association between grandparent-grandchild communication and the development of ageist attitudes, (b) expand our understanding of intergenerational communication accommodation dynamics, and (c) investigate the role of communication with outgroup members in reducing the outgroup homogeneity effect.

Method

Participants were 102 young adults from introductory speech classes at a large midwestern university who received course credit in exchange for volunteering (61% female, 39% male, 18–25 years old, $M = 20.25$, $SD = 1.58$). Most respondents were White/European American

(79%), African American (9%), or Hispanic/ Latino (6%); approximately 6% indicated other ethnic groups.

Materials and Procedures

Participants completed a set of three questionnaires: a grandparent relationship questionnaire (GRQ), a grandparent questionnaire (GQ), and an older adult questionnaire (OAQ). The first was designed to elicit the number and type (lineage, gender) of participants' grandparent relationships. The second was designed to measure specific perceptions of aspects of communication in each of those relationships. The third was designed to measure more general attitudes toward older adults and intergenerational communication. Approximately half (*n* = 56) of the participants completed the GRQ and the GQ prior to completing the OAQ. The remaining participants completed the OAQ before the grandparent surveys. No order effects were detected.

Grandparent relationship questionnaire (GRQ)

This questionnaire instructed participants to "briefly describe (e.g., name, relationship to you, appearance) the grandparents you have had contact with during your life." If the young adult could not remember the relationship (if, for example, the grandparent died when the participant was a young child), they were instructed not to include this grandparent on the questionnaire. Participants were instructed to include nonbiological grandparents (such as step-grandparents) in this questionnaire if they perceived them as grandparents and a relationship had developed between the two. If a grandparent had died but the respondent had a relatively thorough recollection of the relationship, they were instructed to include that grandparent. We were interested in accessing current cognitive representations of the grandparent relationships, hence we were not concerned whether participants reported on grandparents they had not spoken to recently, for example because of the grandparent's death. Respondents reported on one to six grandparents (one grandparent, 9%; two, 14%; three, 35%; four, 31%; five, 7%; six, 4%).

Grandparent questionnaire (GQ)

After completing the GRQ, the young adults completed a GQ for each grandparent described in the GRQ (so if three grandparents were listed on the GRQ, then three GQs were completed, one for each grandparent). This questionnaire contained 38 items evaluating satisfaction and accommodation in communication with the grandparent. Five items measured the grandchild's satisfaction with "a typical conversation with this grandparent." These items were a shortened version of Hecht's (1978) communication satisfaction scale that has demonstrated acceptable reliability and validity in previous research on communication and aging (Harwood, 2000a; for example, I am generally satisfied with the conversations; I do not enjoy the conversations; alpha = .85).

The 33 remaining items addressed the grandchild's perceptions of communication accommodation in conversations with the grandparent. These items were derived from previous research (Coupland et al., 1988; Harwood, 2000a) and assessed a variety of accommodative, overaccommodative, and underaccommodative behaviors associated with communication accommodation theory. The grandparent-grandchild accommodation dimensions

are interrelated measures assessing different aspects of the communication experiences in this particular dyad. Hence, although these dimensions are associated with communication satisfaction, they provide a method for assessing perceptions of specific behaviors instead of a global evaluation of communication satisfaction. Table 1 provides a list of the dimensions, specific items, and reliability coefficients. Respondents completed these scales for each of their grandparents. The reliabilities reported are for the first grandparenting relationship on which they reported. All items were measured with five-point scales (strongly agree–strongly disagree).

The first dimension, grandchild accommodative involvement, focuses on positive communication toward the grandparent. The second dimension, grandchild reluctant accommodation, addresses the grandchild's level of felt constraint in their communication with grandparents, which has been shown to influence relational satisfaction (Williams & Giles, 1996). The third dimension, grandchild accommodating role-relations, focuses on communicating respect to the grandparent. For younger adults, the notion of respect has been shown to be a relevant characteristic in intergenerational interactions (Harwood, McKee, & Lin, 2000). Finally, the degree to which the grandchild attunes their behavior to accommodate perceived communication deficiencies of the grandparent is addressed in the grandchild interpretability strategies dimension (for example, talking louder is an accommodation to perceived deafness). In addition, perceptions of grandparent accommodation were measured. Perceived grandparent accommodation emphasizes the degree to which younger adults feel their grandparents are appropriately and positively adapting to them. In terms of unsatisfactory behaviors, perceived grandparent overaccommodation and perceived grandparent underaccommodation assess the degree to which the grandparent is seen to go too far or not far enough in accommodating the grandchild. Finally, perceived grandparent topic management takes into account the extent to which the grandchild feels the grandparent engages in conversation that is interesting and relevant (Coupland et al., 1988).

Measures of central tendency and variability in these communication measures were assessed. Central tendency measures were derived by calculating an average for each dimension across the number of grandparent relationships respondents reported. These scores are reported (along with their standard deviations) in the first column of data in Table 2. The measures of variation were derived by calculating a standard deviation for each dimension across however many grandparent relationships were reported. These variation scores (along with their standard deviations) are reported in the second column of data in Table 2. For measures of variability, higher scores indicated greater variability in the relationships between a respondent and his/her multiple grandparents. Respondents reporting on only one grandparent scored zero on this measure, indicating no variability in their relational experiences with their single grandparent.

Table 1. Dimensions of Young Adults' Evaluations of Conversations with Grandparents

Dimensions and items

Grandchild accommodative involvement (α = .82)
    I share personal thoughts and feelings
    Talk about topics my grandparent enjoys
    Compliment my grandparent
    Don't know what to say (R)
    Look to end the conversation (R)
    Want to leave (R)

Grandchild reluctant accommodation (α = .79)
    I have to "bite my tongue"
    Avoid certain ways of talking
    Don't always say what I think
    Don't act like myself
    Avoid certain topics

Grandchild accommodating role-relations (α = .75)
    I show respect for his/her age
    Feel respect for his/her knowledge and wisdom

Grandchild interpretability strategies (α = .84)
    I speak louder
    Speak slower than normal

Perceived grandparent accommodation (α = .87)
    My grandparent compliments me
    Shows affection for me
    Shows respect for me
    Shares personal thoughts and feelings
    Is attentive
    Is supportive

Perceived grandparent overaccommodation (α = .74)
    My grandparent negatively stereotypes me as a young person
    Talks down to me

Perceived grandparent underaccommodation (α = .81)
    My grandparent complains about his/her life circumstances
    Complains about his/her health
    Is close minded
    Talks about his/her health
    Expresses racist/prejudiced opinions
    Makes angry complaints
    Gives unwanted advice

Perceived grandparent topic management (α = .81)
    My grandparent tells interesting stories
    Provides interesting information about history
    Provides interesting information about my family

Note: (R) indicates reversed-scored items.

Table 2. Descriptive Statistics of Younger Adults' Evaluations of Conversations with Grandparents

Dimension of communication with grandparent	Mean score across relationships with grandparent(s)*	Variation scores of relationships with grandparent(s)**
Communication satisfaction	3.87 (*SD* = .61)	.69 (*SD* = .63)
Grandchild accommodation involvement	3.84 (*SD* = .66)	.55 (*SD* = .48)
Grandchild reluctant accommodation	2.62 (*SD* = .77)	.54 (*SD* = .44)
Grandchild accommodating role-relations	4.50 (*SD* = .70)	.28 (*SD* = .36)
Grandchild interpretability strategies	2.86 (*SD* = 1.19)	.53 (*SD* = .55)
Perceived grandparent accommodation	4.21 (*SD* = .58)	.53 (*SD* = .54)
Perceived grandparent overaccommodation	1.58 (*SD* = .60)	.47 (*SD* = .53)
Perceived grandparent underaccommodation	2.08 (*SD* = .67)	.54 (*SD* = .45)
Perceived grandparent topic management	3.97 (*SD* = .69)	.54 (*SD* = .55)

* Calculated as the average score for each subject across all their grandparent relationships.

** Calculated by computing a standard deviation for each subject across all their grandparent relationships; respondents with only one grandparent scored a zero.

Older adult questionnaire (OAQ)

The OAQ measured perceptions of nonfamily older adults and intergenerational conversations. It included 15 items describing older adult traits (caring, self-centered, fit, wise, impulsive, confident, fashion conscious, traditional, painstaking, easygoing, dishonest, arrogant, funny, warm, and prejudiced) and eight items assessing conversations with older adults ("rate the extent to which in a typical conversation with an older person you feel . . ." positive, bored, intimidated, like I am learning, helpful, older adult is hostile, distant, and need to be respectful). The measures were derived from previous research (Harwood, 2000b; Hewstone et al., 2002; Williams & Giles, 1996). All items were assessed on 83mm scales anchored by a positive and negative extreme for the item (for example, extremely caring–not at all caring).

First, respondents were asked to provide an average perception of older adults (over the age of 65 and not a grandparent) for each item by marking an "X" at some point on the line. Once this task was completed, they were asked to indicate where they felt the extreme members of the older population would fall on each side of the average by making two slashes on each scale (one each side of each X). The distance between the two slashes was used as a measure of perceived variability in older adults for each item. Measures of perceived outgroup variability were calculated by computing an average of all the variability measures for older adult traits (alpha = .96, range 22.60mm to 75.93mm, *M* = 50.83, *SD* = 14.10) and conversations with older adults (alpha = .91, range 14.38mm to 77.00mm, *M* = 47.43, *SD* = 14.10). These two measures of variability were substantially correlated (*r* = .84, *p* < .01).

The distance from the negative end of the scale to the X was used as a general measure of attitude toward older adults, and was achieved by averaging the trait items that achieved the highest level of reliability (caring, self-centered [R], fit, wise, easygoing, arrogant [R], warm, and prejudiced [R]; alpha = .74). The distance scores on all eight intergenerational conversation descriptor items were averaged to achieve an overall measure of attitude toward intergenerational communication (alpha = .70). These measures of attitude

ranged widely (older adult traits range 27.88–68.00, *M* = 48.46, *SD* = 8.64; conversation descriptors range 32.88–81.25, *M* = 52.78, *SD* = 8.41).

Results

The hypotheses and research questions were examined in four sets of hierarchical regression analyses. For each set, the criterion variable was a measure of perceptions of older adults; either general attitudes (perceptions of central tendency of older adult traits or intergenerational communication) or outgroup heterogeneity (perceptions of variability in older adult traits or intergenerational communication). In each case, the predictor variables were entered in two steps. The number of grandparents reported on and the mean evaluation of all grandparent relationships on a specific communication dimension were entered first, followed by the variation in evaluations of all grandparent relationships on that dimension. Correlations related to the hypotheses are presented in Table 3. Results for the hierarchical regression analyses are presented in Tables 4–7, organized by criterion variable.

Table 3. Summary of Correlations between Experiences with Grandparents and Perceptions of Older Adults

Dimension of communication with grandparent	Trait-based attitudes toward older adults	General attitudes toward intergenerational conversation
Communication satisfaction	.30**	.40**
Grandchild accommodation involvement	.34**	.38**
Grandchild reluctant accommodation	−.22**	−.31**
Grandchild accommodating role-relations	.19	.28**
Grandchild interpretability strategies	.07	−.11
Perceived grandparent accommodation	.14	.25*
Perceived grandparent overaccommodation	−.38**	−.18
Perceived grandparent underaccommodation	−.58**	−.39**
Perceived grandparent topic management	.05	.24*

Dimension of communication with grandparent	Heterogeneity of perceptions of older adult traits	Heterogeneity of perceptions of intergenerational conversation
Communication satisfaction	.36**	.30**
Grandchild accommodation involvement	.35**	.26**
Grandchild reluctant accommodation	.33**	.31**
Grandchild accommodating role-relations	.06	.06
Grandchild interpretability strategies	.05	.07
Perceived grandparent accommodation	.14	.14
Perceived grandparent overaccommodation	.43**	.42**
Perceived grandparent underaccommodation	.33**	.29**
Perceived grandparent topic management	.26**	.23*

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

Consistent with contact theory (H1), mean ratings of communication satisfaction and grandchild accommodative involvement in relationships with grandparents were positively associated with attitudes toward older adults, while average levels of perceived grandparent overaccommodation, grandchild reluctant accommodation, and perceived grandparent underaccommodation were negatively related to these perceptions (see Table 4). The number of grandparents was not a significant predictor of attitudes toward older adults for any dimension. In a complementary manner, communication satisfaction, grandchild accommodation involvement, perceived grandparent accommodation, and perceived grandparent topic management were positively associated with attitudes toward intergenerational communication (Table 5). Grandchild reluctant accommodation, perceived grandparent overaccommodation, and perceived grandparent underaccommodation were negatively related to perceptions of intergenerational communication. The number of grandparents was positively associated with perceptions of intergenerational communication for five of these dimensions (see Table 5). In short, more negative perceptions of communication behaviors with grandparents tend to be related to more negative attitudes toward older adults. These findings support the applicability of contact theory to the grandparent-grandchild relationship, and demonstrate that communication in the relationship is associated with intergenerational attitudes.

The primary goal of the study was to determine whether variability in perceptions of communication with grandparents is related to perceptions of outgroup homogeneity (H2). Table 6 summarizes the regression analysis for heterogeneity of perceptions of older adult traits. The second step of the analysis shows that variability in grandparent-grandchild communication satisfaction, grandchild accommodation involvement, grandchild reluctant accommodation, perceived grandparent overaccommodation, and perceived grandparent topic management were significantly positively related to variability in perceptions of older adults' traits. The number of grandparents was controlled in these analyses, suggesting that the association is an effect of diversity in contact, not simply the number of different contacts. Control for the mean level of contact quality indicates that our measure of variability in contact contributes something over and above traditional measures of contact quality. This strengthens the argument that there is an association between qualitative variability in grandchildren's communication with their grandparents and perceptions of outgroup homogeneity. The general pattern for attitudes concerning intergenerational communication is similar (Table 7). Variability in communication satisfaction, grandchild reluctant accommodation, perceived grandparent overaccommodation, perceived grandparent underaccommodation, and perceived grandparent topic management are positively related to heterogeneity of perceptions of intergenerational communication.

Table 4. Summary of Regression Analysis on Trait-based Attitudes Toward Older Adults

Dimension of communication with grandparent	Step I		Step II			
	R	β (Mean)	β (Mean)	β (Variation)	R	R² change
Communication satisfaction	.32**	.30**	.21*	−.34**	.44**	.09**
Grandchild accommodation involvement	.36**	.35**	.28**	−.17	.39**	.02
Grandchild reluctant accommodation	.24*	−.21*	−.19*	−.30**	.36**	.07**
Grandchild accommodating role-relations	.23	.20*	.17	−.08	.24	.00
Grandchild interpretability strategies	.13	.06	.05	.22	.23	.04
Perceived grandparent accommodation	.18	.13	.07	−.12	.20	.01
Perceived grandparent overaccommodation	.38**	−.37**	−.16*	−.34*	.45**	.06*
Perceived grandparent underaccommodation	.58**	−.57**	−.56**	−.02	.58**	.00
Perceived grandparent topic management	.13	.06	.05	−.04	.14	.00

Note: Number of grandparents and the mean for the communication dimension were entered in Step I. Variation in the communication dimension was added in Step II. Number of grandparents was not a significant predictor in any of the models; statistics are not reported for this variable.

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

Table 5. Summary of Regression Analysis on General Attitudes Toward Intergenerational Conversation

Dimension of communication with grandparent	Step I		Step II			
	R	β (Mean)	β (Mean)	β (Variation)	R	R² change
Communication satisfaction	.44*	.39**	.41**	.06	.44**	.00
Grandchild accommodation involvement	.41**	.37**	.47**	.28*	.47**	.05*
Grandchild reluctant accommodation[a]	.38**	−.33**	−.34**	.12	.40**	.01
Grandchild accommodating role-relations[b]	.32*	.26	.19	−.20	.36*	.03
Grandchild interpretability strategies	.21	−.09	−.10	.09	.22	.01
Perceived grandparent accommodation[c]	.33**	.27	.40**	.24	.38**	.03
Perceived grandparent overaccommodation[d]	.29*	−.22*	−.12	−.16	.31*	.01
Perceived grandparent underaccommodation[e]	.46**	−.42**	−.54**	.25*	.50**	.04*
Perceived grandparent topic management	.30*	.23*	.33**	.28*	.38**	.06*

Note: Number of grandparents and the mean for the communication dimension were entered in Step I. Variation in the communication dimension was added in Step II. Except where noted below, number of grandparents was not a significant predictor in the models.

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

a. number of grandparents β (Step I) = .215*

b. number of grandparents β (Step II) = .236*

c. number of grandparents β (Step I) = .210*

d. number of grandparents β (Step I) = .223*, (Step II) = .269*

e. number of grandparents β (Step I) = .236*

Table 6. Summary of Regression Analysis on Heterogeneity of Perceptions of Older Adults

Dimension of communication with grandparent	Step I		Step II			
	R	β (Mean)	β (Mean)	β (Variation)	R	R² change
Communication satisfaction	.19	−.14	−.05	.35**	.37**	.10**
Grandchild accommodation involvement	.25*	−.21*	−.10	.31**	.36**	.07**
Grandchild reluctant accommodation	.21	.16	.14	.32**	.36**	.08**
Grandchild accommodating role-relations	.13	−.02	−.01	−.02	.13	.00
Grandchild interpretability strategies	.14	−.04	−.04	−.03	.14	.00
Perceived grandparent accommodation	.13	.02	.11	.17	.19	.02
Perceived grandparent overaccommodation	.23	.20*	−.15	.55**	.45**	.14**
Perceived grandparent underaccommodation	.31**	.29	.17	.23	.36**	.03
Perceived grandparent topic management	.13	.01	.11	.29*	.28*	.06

Note: Number of grandparents and the mean for the communication dimension were entered in Step I. Variation in the communication dimension was added in Step II. Number of grandparents was not a significant predictor in any of the models; statistics are not reported for this variable.

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

Table 7. Summary of Regression Analysis on Heterogeneity of Perceptions of Intergenerational Conversation Descriptors

Dimension of communication with grandparent	Step I		Step II			
	R	β (Mean)	β (Mean)	β (Variation)	R	R^2 change
Communication satisfaction	.13	−.08	.00	.30*	.30*	.07*
Grandchild accommodation involvement	.22	−.19	−.11	.22	.28*	.03
Grandchild reluctant accommodation	.17	.14	.11	.32**	.33*	.08**
Grandchild accommodating role-relations	.12	−.07	−.07	.00	.12	.00
Grandchild interpretability strategies	.12	−.07	−.08	.03	.13	.00
Perceived grandparent accommodation	.10	−.01	.09	.17	.16	.02
Perceived grandparent overaccommodation	.24	.22*	−.10	.52**	.43**	.13**
Perceived grandparent underaccommodation	.23	.21*	.08	.25*	.30*	.04
Perceived grandparent topic management	.10	−.01	.07	.25*	.24	.05*

Note: Number of grandparents and the mean for the communication dimension were entered in Step I. Variation in the communication dimension was added in Step II. Number of grandparents was not a significant predictor in any of the models; statistics are not reported for this variable.

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

The two research questions addressed the corollaries of what has already been presented by investigating the association between variability in grandparent relationships and valence of attitudes toward older adults as well as the relationship between valence of contact with grandparents and perceptions of outgroup homogeneity. First, we were concerned whether variability in perceptions of a grandchild's communication with grandparents was related to attitudes toward older adults and intergenerational communication (RQ1). For older adult traits (Table 4), variation in communication satisfaction, grandchild reluctant accommodation, and perceived grandparent overaccommodation were all significantly negative*y* related to general attitudes toward older adults. That is, the more variability experienced in communication with grandparents, the more negative are the grandchild's attitudes toward older people in general. In contrast, Table 5 shows that variability in grandchild accommodation involvement, grandparent underaccommodation and grandparent topic management are positively related to attitudes regarding intergenerational communication. More variation in communication with grandparents on those dimensions is associated with more positive attitudes toward intergenerational communication. The answer to RQ1, thus, remains rather murky. It appears that variation in contact is related to attitudes, but the precise nature of the link seems to vary depending on the specific predictor dimensions and whether trait-based attitudes or attitudes toward communication are assessed. This finding was further explored by examining zero-order correlations between the measures of variability in grandparent contact and the attitude measures. A similar pattern emerged, however the negative correlations with the trait-based measure were more common (5:1) and larger than the positive correlations with the communication measure. We conclude that the trend here is toward negative relationships between variability in grandparent contact and general attitudes toward older people.

The second research question focused on the association between average quality of communication with grandparents and perceptions of outgroup heterogeneity. As shown in Tables 6 and 7, when number of grandparents and variation in communication were controlled, central tendency measures were not significant predictors of perceived outgroup heterogeneity.[1]

Discussion

From a contact theory perspective, we investigated the grandparent-grandchild relationship to determine if variation in young adults' perceptions of communication with their grandparents is related to attitudes toward older adults. The findings demonstrated that variation in perceptions of intergroup contact is related to perceptions of outgroup variability in the predicted fashion: More diversity in perceptions of experiences with grandparents is associated with more complex perceptions of older adults in general. In other words, these findings suggest that more diverse communication experiences with outgroup members might be a recommended strategy for improving attitudes (in general, greater perceptions of outgroup variability would be perceived as a positive outcome). However, the findings for the measures of attitudinal central tendency indicate some complexity to this conclusion. In most cases it appears that more variation in perceptions of communication with grandparents is associated with more negative perceptions of older

adults and negative attitudes toward intergenerational communication. In the discussion below we address the broad pattern of findings and explain them in the context of attitudes toward aging.

Variation in Contact with Grandparents and Perceptions of Older Adults

The grandparent-grandchild relationship typically serves as a young person's initial and most frequent contact with older adults. This dyad is typically one in which (age) group memberships are salient, and contact meets a number of the facilitating conditions suggested by contact theory. The test of our second hypothesis showed that younger adults experiencing greater variability in perceptions of grandparent-grandchild communication demonstrated lower levels of perceived outgroup homogeneity. The number of grandparents was controlled in these analyses, indicating that to be beneficial in terms of increasing variability in perceptions of older adults, the younger adult must perceive diversity in their relationships with their grandparents, not merely have multiple grandparents.

In addition to investigating perceptions of intergroup communication as a measure of the quality of intergroup contact rather than relying on generic measure of contact quality (as is the case in much of the previous work on contact theory), the results advance theorizing on intergroup contact and communication and aging in three ways. First, this research looked at relationships between variation in intergroup contact and variability in attitudes. Previous work has focused on central tendency measures of attitudes, and almost exclusively on central tendency measures of contact. As noted at the outset, relatively straightforward interventions could be designed that would enhance individuals' perceptions of variation in their intergroup contact (such as encouraging people to think about the two most different encounters they have ever had with members of a particular outgroup). If such interventions could have the positive outcome of increasing overall perceptions of outgroup variability, this would represent a very straightforward way of improving attitudes.

Second, the current work looks at the influence of intergenerational communication on intergenerational attitudes. The majority of intergenerational communication research has examined the reverse pattern: the influence of attitudes on communication. Given the findings emerging from that literature (negative attitudes lead to poor quality communication), we feel that work attempting to uncover the origins of negative attitudes in communication and suggesting ways of ameliorating negative attitudes is beneficial. These findings suggest that homogeneous contact with older adults in the family is associated with perceptions of outgroup homogeneity, and hence that encouraging diversity in the nature of contact with different grandparents would be beneficial. Of course, the study's design was correlational and caution should be exercised in drawing causal conclusions.

Third, this study bridges the divide between those who study older adults outside the family context (for example, ageist stereotypes and attitudes) and those who examine older adults within the family (for example, grandparent-grandchild relationships). To date, there has been very little research examining the connections between those areas, yet we see this as a fertile area for future research, particularly as the vast majority of intergenerational contact does occur within the family (Williams & Giles, 1996). Current developments in intergroup theory support this contention. For instance, Gaertner and Dovidio's (2000) work on the common ingroup identity model suggests that the same situation may

be simultaneously construed as intergroup (for example, young-old) and ingroup (for example, shared family identity), and that such situations may be particularly interesting in determining attitude change. Likewise, work in family communication has begun to consider the ways in which broader social group memberships may influence family dynamics (Fitzpatrick & Vangelisti, 2001; Harwood, in press; Williams & Harwood, in press).

Our first research question focused on the association between variability in the grandparent-grandchild relationship and younger adults' attitudes toward older adults. Results suggest that greater variability in younger adults' experiences in their relationships with grandparents is associated with more negative attitudes toward nonfamily older adults, which is something of a contrast with the apparently positive findings with respect to H2. We believe that this apparent contradiction is in part a result of the specific relationship examined. As previously mentioned, the grandparent-grandchild relationship is typically evaluated positively (Ng et al., 1997), and this was the case in our data. Therefore, grandchildren scoring high on our measure of diversity in relationships with their grandparents are those who have at least one grandparenting relationship in which they have more negative experiences—there is little room for increasing diversity in a positive direction. Thus, if the individuals with more diverse relationships generalize from their experiences with their grandparents to older adults in general, they are likely to report more heterogeneous and also more negative perceptions of older adults (the pattern we observed). This account is supported by the fact that for seven of our nine measures of communication, the measure of variation is significantly correlated with the average score (across all nine measures the average absolute size $r = .36$; all correlations indicated more variation associated with more negative evaluations). This suggestion could be further tested by examining contact that is predominantly negative (as appears to be the case with older adults who are not family members). Increased variability for such relationships would presumably be indicative of some portion of contacts that are more positive, and hence increased diversity in contact should be associated with increased perceptions of outgroup variability (as was the case in the current study), and more positive attitudes (the reverse of the current study).

Of course, this explanation does not tell the whole story because the negative correlation between variation in experiences with grandparents and general attitudes persisted even when central tendency of experiences with grandparents was controlled. One possible explanation for the persistent negative correlation comes from the intergroup attribution literature (Islam & Hewstone, 1993; Taylor & Jaggi, 1974), which demonstrates a general tendency to attribute outgroup members' negative behaviors to fundamental aspects of personality (internal attributions), whereas positive behaviors are attributed to situational or transitory phenomena (external attributions). The current finding may be an extension of this. Perhaps positive experiences with grandparents are less likely to be associated with the general cognitive representation of older people than negative ones. If this were the case, then those with more variation would have more potential to develop negative attitudes because they had more of the types of experiences that are most likely to lead to negative attitudes.

To illustrate this, we might imagine two individuals (Bob and Judy). Bob has two grandparents, both of whom are about average in terms of his quality of contact, hence his overall

contact is average. Judy has one very positive relationship and one very negative relationship. Her overall contact is also average; however, because of intergroup biases, the negative relationship is more likely to be associated with her general stereotypes and attitudes toward older people, and the positive relationship is more likely to be interpreted on individual terms. Hence, although the central tendency of the two individuals' level of contact is the same (controlled), the individual with more variation in contact is likely to end up with more negative attitudes. Work by Vonk and Olde-Monnikhof (1998) is relevant here. They find that subgrouping (which is generally associated with perceptions of outgroup variability) does not automatically lead to reduced bias, and in fact may simply shift bias to a different level (that is, to bias against subgroups). Similarly, Richards and Hewstone (2001) note that the development of negatively valenced subgroups is unlikely to have substantial positive effects on intergroup bias.

Directions for Future Research

The findings from this investigation offer interesting avenues for future research on intergenerational communication and intergroup contact, along with some methodological implications. Findings indicate that there is a relationship between the diversity of young adults' relationships with their grandparents and perceptions of older adults. Future research should focus on additional outcome measures. Is greater variability in perceptions of older adults associated with more diverse behaviors toward older people in daily life, or with a broader repertoire of scripts or schemas for intergenerational communication (Harwood, 2000b; Hewstone et al., 2002)? Given the different findings for variation and central tendency measures of attitudes, it would also be useful to investigate which is a more powerful determinant of younger adults' behaviors in an intergenerational context—their attitudes toward the outgroup (central tendency) or their perceptions of outgroup variability? In addition, future research should address if, or the degree to which, cognitive complexity plays a role in determining variation in perceptions of outgroup members. Finally, current research suggests that contact with outgroup members is a more powerful determinant of attitudes when group memberships are salient in the contact situation (that is, the effects of contact are moderated by group salience; Hewstone et al., 2002; Hewstone & Lord, 1998). Research should examine whether this moderation effect holds in the variability-based contact effects described herein.

In addition to some of the issues already discussed, certain limitations in the current study offer directions for research. First, we examined perceptions of communication rather than actual communication within this relationship. Although it is expected that these perceptions of communication are related to the actual behavior of the grandparent and grandchild, this is a noteworthy limitation to the scope of the study. Second, the current research assumes age group membership to be a salient dimension of this interaction. Intergenerational family relationships provide a unique context for intergroup research since family members may be both ingroup (for example, ethnicity, religion) and outgroup members (for example, age). Hence, subsequent research needs to examine the role of age salience in the association between the grandparent-grandchild relationship and perceptions of older adults. Third, findings only offer support to the association between diversity in the grandparent-grandchild relationships and greater variance in perceptions of

older adults. Subsequent research should examine the nature of this association to determine causality of the relationship. Longitudinal work would be valuable here. Fourth, further investigation should move beyond college-age and student subjects to younger and older samples to determine if our sample's age or education level were significant elements in the current findings. Finally, the current research focused on general communication satisfaction and communication behaviors as elements in intergenerational contact. Future work should examine the role of health-related issues (such as physical and mental impairment) in affecting whether the nature of the grandparent-grandchild relationship influences perceptions of older adults in general.

Practical Applications

Increasing perceptions of outgroup heterogeneity could improve intergenerational interaction. In our discussion of the communication predicament model of aging (Ryan et al., 1986), we noted the role of age-related stereotypes in constraining communicative opportunities for older adults as well as the potential negative consequences of these types of interactions (such as lower levels of self-esteem and self-stereotyping behaviors). An important element of this model is the accessibility and use of the age-related stereotype. Those with more varied perceptions of an outgroup tend to find their stereotypes less useful (Ryan et al., 1996) and apply them more flexibly (Richards & Hewstone, 2001) in interpersonal contact situations. Hence, a younger adult who perceives older adults as more variable may attend more to personal characteristics of an older target rather than depending on stereotypically derived perceptions. Ryan, Meredith, MacLean, and Orange (1995) highlight the potential positive outcomes of this type of person-centered approach to intergenerational interactions. Therefore, the following discussion provides some suggestions for ways in which intergenerational contact might be tailored to favor positive outcomes in terms of age-based prejudice.

Although our design was correlational, it suggests that perceptions of variability among older adults in general might be increased by increasing perceptions of variability in personal contacts with older people (specifically grandparents, but perhaps others as well). Therefore, reducing prejudicial perceptions might be achieved by systematically increasing the diversity of such contacts (for example via contact programs that deliberately manipulate the context or nature of contact to achieve diversity), or by manipulating perceptions of diversity of contact. The latter might be achieved by interventions that are designed to make the variation in contacts more salient (for example by pointing out different emotions experienced during contact, or even different physical settings of contact). The data, however, indicate that diversity of contact might also have some negative consequences in terms of general attitudes. Therefore, interventions should be designed so as to avoid negative attributions about the group. Specifically, it is worth investigating whether interventions can be designed that emphasize qualitative diversity while retaining positivity. Our best explanation for the negative effects of diverse contact on attitudes is that the negative experiences gain particular weight in the intergroup context and tend to be more easily associated with the cognitive representation of the group. Therefore, diverse positive contacts would be valuable. For some younger individuals, sitting and

watching a basketball game and visiting an art gallery with a grandparent might be equally positive and interesting activities but would involve substantially different communicative, cognitive, and emotional activity. Such contact might encourage increased perceptions of outgroup heterogeneity without encouraging negative attitudes. Making age differences more salient in recall of positive encounters might serve a similar function.

Although the current research focused on intergenerational interactions, the findings also have applications to other areas of intergroup communication (such as interracial and interfaith communication). The comments from the previous paragraph might apply to educational settings in which students of different cultural backgrounds come into contact, or organizational settings in which members of different divisions are expected to work together. Highlighting the complexity and diversity in such contacts might contribute to more differentiated outgroup perceptions with all of the positive consequences that come from that. Again, we would reiterate caution given our somewhat inconsistent findings for the measures of outgroup attitudes and would advocate more research attention to this issue.

One intriguing possibility for manipulating perceptions of contact diversity without the potential pitfalls of direct contact (for example anxiety and negative experiences) has been suggested by Wright et al. (1997). They show that knowledge of friends' intergroup contacts may influence attitudes toward an outgroup. In the current context, it is possible that describing grandparent relationships to friends and recounting different experiences with grandparents might influence attitudes not only in terms of their central tendency but also their variability. Hence parents, teachers, and members of community and religious organizations could emphasize the importance of not only recognizing positive experiences with older family members but also sharing these experiences with friends and peers. Such results would have important consequences in terms of public campaigns to combat prejudice. Perhaps just knowing that a trusted role model or friend has diverse intergroup contacts (for example, different and positive relationships with grandparents, or multiple valued and different intercultural friendships) would enhance perceptions of outgroup heterogeneity in the population. We believe that the results from the current study have created exciting and important directions for investigating intergroup communication, discovering factors associated with the negative aspects of intergroup relations, and possible strategies and processes for alleviating aspects of intergroup prejudice and discrimination.

Note

1. All analyses were repeated with only those respondents reporting on at least two grandparents. No substantial differences were found in the results.

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