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CHANGES IN ATTITUDES AMONG CHILDREN AND ELDERLY ADULTS IN INTERGENERATIONAL GROUP WORK
Martin Pinquart Silka Wenzel, Silvia Sö Rensen

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Negative attitudes among members of different age groups interfere with intergenerational communication. Changes in intergenerational attitudes in 32 8- to 11-year-old children and 20 elderly adults were investigated using activity groups. Applying the theory of realistic intergroup conflict, we varied the amount of joint activity between groups. In the experimental group, joint activities (e.g., writing stories, making glove puppets, performing a puppet show) were organized by the researcher. In the control group, although there was visual contact among them, the children and elderly participants worked alone. The elderly adults’ ratings of the participating children became more positive only in the experimental group. However, children’s ratings of the elderly participants improved regardless of the experimental condition. Seven weeks after the end of the intervention, only the children’s changes in attitudes toward the elderly participants remained significant. Improvements in intergenerational attitudes during group activities were associated with increased frequency of intergenerational contact outside the group.
More than 35 years ago, sociologist Karl Mannheim (1952) suggested that intergenerational conflict between the young and the old was inevitable. *Generations* are defined in this article as age groups born in the same time period and sharing similar historical experiences rather than by family position (Bengtson, Cutler, Mangen, & Marshall, 1985). Indeed, there are differences between generations, for example, in attitudes, in lifestyles, and in economic interests (Coombs & Holladay, 1995).

In the social sciences, intergenerational research has focused on attitudes and behavior between members of different age groups. In this research tradition, Robert Butler (1969) coined the term *ageism*, defining a negative attitude toward the elderly associated with discriminatory behaviors. Many studies have shown that younger people often hold negative attitudes toward the elderly and view them as senile, isolated, helpless, useless, lethargic, unproductive, and stubborn (e.g., Palmore 1990). On the other hand, some hold positive attitudes about the elderly, for example, describing them as wise advisors or caring grandparents (e.g., Hummert, Garstka, Shaner, & Strahm, 1995). Compared with the number of studies investigating the attitudes of younger people regarding the elderly, there is almost no research on the attitudes of the elderly toward children and adolescents, and the few findings that exist are mixed. In a study by Seefeldt, Jantz, Serock, and Bredenkamp (1982), for example, the elderly had predominantly positive attitudes regarding children. However, children also were considered to be undisciplined and too demanding.

Negative attitudes toward the elderly develop early in childhood (Burke, 1981; Thomas & Yamamoto, 1975), influenced by negative age stereotypes in fairy tales (e.g., descriptions of old gnomes or witches). Therefore, interventions to change negative attitudes or to build positive attitudes should begin early.

However, the research on changes in intergenerational attitudes resulting from interventions is not very conclusive. First, a number of interventions have been reported, but without assessment of attitude change (e.g., Greger, 1992; Ward, Kamp, & Newman, 1996). Other studies have focused on attitude change, but only in one generation (most often in children; e.g., Oljenik & LaRue, 1981; Seefeldt, 1987). Several studies analyzing attitude change reported mixed results, including more negative attitudes after the intervention (e.g., Baggett, 1981; Seefeldt, 1987). In addition, there is not enough information on the stability of attitude changes resulting from intergenerational interventions. This study investigated both the influences of an intervention with different group conditions on the improvement
of intergenerational attitudes in both children and older adults and the stability of attitude change.

THEORETICAL BACKGROUND

In social psychology, several theories have been developed to describe the emergence and functions of stereotypes. First, the theory of realistic intergroup conflict (Sherif, 1961) focuses on the divergence of goals of different groups. When there are opposing goals, negative attitudes and intergroup conflict will develop. In intergenerational research, according to this concept, competition for limited economic resources and children's striving for autonomy may provoke conflicts between children and adults (Dunham & Bengtson, 1986). According to Sherif's theory, conflicts may be reduced and attitudes improved by the development of a superordinate common goal between groups. Longer lasting cooperation between members of different age groups (on condition of equality), and joint success, should reduce intergenerational conflicts and, therefore, improve attitudes among members of different age groups.

Second, a cognitive concept regarding intergroup discrimination was developed by Tajfel (1978) in the context of social identity theory. Negative attitudes toward a group and its members do not presuppose opposition in the interests of these groups. Instead, negative attitudes toward the out-group develop when members of that group differ from the other in a visible, distinguishable characteristic (e.g., age). Because the human ability to process information is limited, individuals reduce the complexity of new information by categorizing objects or other individuals into groups (e.g., old–young, males–females). Attitudes about these groups are simplified by (a) underestimating the variability within these groups (e.g., all elderly individuals are alike) and (b) overestimating the difference between groups (e.g., young and elderly individuals have nothing in common). Because individuals wish to view themselves positively, they hold positive attitudes about their own group and automatically devalue others.

As a consequence, improving negative intergroup attitudes requires changing this simplified perception. Interventions should, therefore, clarify to individuals in the in-group that there are commonalities with the out-group and that there is much interindividual variability among members of the out-group. For example, instead of holding the prejudice that most elderly individuals need help,
younger people should recognize the considerable interindividual differences among the elderly (ranging from the highly competent to those who cannot care for themselves).

Third, another theoretical approach explains the emergence of negative intergroup attitudes among generations by a deficit in intergenerational contact (e.g., Seefeldt, 1989). The lack of personal contact between age groups may be the reason that myths and stereotypes prevail. However, not all kinds of personal contact may be useful for improving intergenerational attitudes. For example, contact between younger people and elderly individuals with dementia may reinforce negative attitudes about low cognitive competence in old age.

**Review of Interventions to Change Intergenerational Attitudes**

Promoting contact between generations has been a common, but somewhat controversial, intervention. It is controversial primarily because, in several studies, exposing children to mostly passive nursing home residents resulted in an increase in the children's negative stereotypes of the elderly (Seefeldt, 1987). Studies that brought together older adults and children in more structured settings (e.g., having lunch together; Oljenik & LaRue, 1981) or engaging in a specific joint activity (Proller, 1989) had mixed results, including reduced negative intergenerational attitudes on the part of both the children and the older adults. When structured activities also involved the transfer of positive information about older adults, combined with the opportunity for interaction, improvement in attitudes toward the elderly were reported (Dellman-Jenkins, Lambert, Fruit, & Dinero, 1986; Rich, Myrick, & Campbell, 1983). However, when effects of intergenerational face-to-face interaction were compared to transfer of knowledge about the elderly, greater improvement in children’s attitudes was found for the interaction condition (Russell, Die, & Walker, 1986).

Programs in which older people tutor individual children to improve specific skills or in which older adults assist with the general program in kindergarten classes appear to have positive effects on the attitudes of children toward the elderly and result in greater subjective well-being for the elderly themselves. Joint intergenerational activity facilitates learning about the other generation and, therefore, promotes the development of more positive attitudes toward other generations. For example, Carstensen, Mason, and Cadwell (1982) reported improvement in the attitudes toward the elderly of
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children with reading difficulties who received tutoring from elderly individuals. Caspi (1984) compared 3- to 6-year-old children from traditional nursery schools with those from kindergartens in which elderly individuals volunteered. Children in the latter group held more positive attitudes toward the elderly.

Promoting Well-Being in the Elderly

A number of intergenerational programs also have been aimed at improving the well-being of older adults or at improving their attitudes toward young children. In the work of Greger (1992), for example, joint group work (doing pottery) of nursing home residents and children from nursery schools seemed to improve general activity in the elderly residents. Joint activities with children from a nursery school (e.g., playing together, going on trips) were associated with an increase in general social activity in the elderly participants (Lowenthal & Egan, 1991). Ward, Kamp, and Newman (1996) reported evidence that weekly singing between nursing home residents with dementia and nursery school children had beneficial effects on the psychological well-being of the elderly residents.

Because of specific experiences, attitude change can be a short-lived adjustment, or it can be a long-term change in disposition (Six & Schäfer, 1985). Although short-term outcomes of intergenerational programs have been assessed, the stability of attitude change derived from intergenerational interventions has—with the exception of Aday, Sims, McDuffie, and Evans (1996) and Corbin, Metal-Corbin, and Barg (1989)—not been investigated.

RESEARCH QUESTIONS

This article focuses on three research questions. First, we investigated how the degree of common goals in intergenerational interactions is related to improvement in intergenerational attitudes. Second, we were interested in whether improvement in intergenerational attitudes is related to the desire for increased future intergenerational contact. Third, we focused on whether participation in intergenerational activity groups is associated with improvement in participants' self-concept. Thus, we formulated three hypotheses.

On the basis of previous intergenerational interventions it can be concluded that merely bringing together members of different generations is not sufficient to improve intergenerational attitudes. Above all, it appears that if elderly participants remain passive during the
encounter (Seefeldt, 1987), and if there is no intensive and personalized contact between generations and no common goals or interests (Oljenik & LaRue, 1981), there are few positive and sometimes even negative effects. On the basis of these results, and applying the theory of realistic intergroup conflict (Sherif, 1961), we investigated the influence of a superordinate, common goal on changing attitudes about specific members of another generation and about the other age group in general. On the basis of several experiments with groups of children, Sherif (1961) determined that conflicting group goals (e.g., one group wins, the other loses) lead to the development of negative attitudes toward the out-group. On the other hand, a later implementation of a superordinate, common goal of both groups reduced negative attitudes toward the out-group. In contrast to most previous research, we analyzed attitude changes for both children and elderly participants. In addition, we investigated the stability of attitude changes following the intervention. First, in Hypothesis 1, we expected that children and elderly adults participating in groups and cooperating on the basis of a common goal would show greater improvement in intergenerational attitudes compared with members of groups not sharing a common goal.

Second, negative attitudes among generations are likely to inhibit intergenerational contacts. Weinberger and Millham (1975), for example, showed that younger people preferred working on a monotonous, boring task over engaging in conversation with elderly people. However, Weinberger and Millham did not investigate attitudes. Therefore, associations between integenerational attitudes and desires for social contacts with other generations still need to be investigated. Hypothesis 2 stated that improvements in attitudes regarding the other generation are associated with increased desire for integenerational encounters.

Finally, Rodin and Langer (1980) suggested that confrontation with negative age stereotypes would lead to deterioration of elderly individuals’ self-concept. Interventions reducing negative integenerational attitudes and providing positive integenerational social feedback may, therefore, lead to increased positive self-concept, at least for the elderly participants. In addition, other influences may contribute to self-concept change, for example, perceiving one’s own self-efficacy during group work or receiving positive feedback from age peers. On the other hand, the theory of realistic intergroup conflict assumes that devaluation of the out-group may lead to improved self-concept as well. Therefore, it seems difficult to infer whether self-concept change should be larger in the experimental group or in the control group. We should mention that previous integenerational
intervention studies obtained mixed results regarding changes in the self-concept and psychological well-being of the elderly participants. For example, changes in self-esteem of elderly study participants varied among improvements (Proller, 1989; second study), constancy (Proller, 1989; first study), and deterioration (Lowenthal & Egan 1991). On the other hand, Lowenthal and Egan (1991) and Proller (1989) both found improved self-esteem in the participating children. On the basis of these theoretical considerations, Hypothesis 3 stated that participation in intergenerational group activities would be associated with an improvement of self-concept.

**METHOD**

**Participants**

Thirty two children (8–11 years, $M = 9.4$ years, $SD = 0.9$ years) and 20 elderly adults ($M = 71.7$ years, $SD = 8.3$ years) took part in group activities. All of the elderly and most of the younger participants (81%) were female. The elderly participants were contacted through senior centers. The children were recruited with the help of two elementary schools. The elderly participants reported on the average weekly to monthly contact with children other than those in the study group; 73% were grandparents. The children, on the other hand, reported having contact with older adults more frequently, in most cases, weekly. The difference in the frequency of intergenerational contact was marginally significant ($t = 1.98$, $p < .06$, df = 50)*.

**Procedure**

The intervention involved an experimental and a control condition, each consisting of two groups of 7 or 8 children and 4 to 6 elderly adults. The groups met weekly over a 6-week period. Each session lasted about 90 minutes. The interventions were held in two senior centers. Because of elderly participants’ reduced mobility, their group membership could not be assigned by chance.

In the experimental group, the elderly and children together chose a fairy tale in the first session. Using the fairy tale, they as a group created a story for a puppet show. During the next four sessions, they made glove puppets in child–adult dyads and held joint group rehearsals. They performed the puppet show as a group during the last session. In the control condition, the elderly and children created

* Because of the small sample size, relationships at $p < .10$ are reported as significant.
separate stories. The children and the elderly participants then came together to choose one of the stories to perform. (In one control group participants selected the children’s story; in the other group they selected the elderly participants’ story.) This process was not influenced by the researcher. In the next four group meetings, members of the control groups made glove puppets in subgroups together with their age peers. The activity ended with a joint performance of the puppet show to minimize, but not eliminate, intergenerational cooperation.

Measures
A two-group repeated-measures design with three times of measurement was used to analyze attitude changes. Before the intervention, attitudes toward the two age groups in general and about the older and younger participants were measured after a short introduction about the project. The same instruments were used in the posttest following the last group meeting and in a 7-week follow-up assessment.

A semantic differential measuring intergenerational attitudes was administered. Each participant was asked to rate elderly people and schoolchildren in general, the children and the elderly participants in the activity group, and themselves on 10 pairs of bipolar adjectives. These adjectives were derived from previous studies on intergenerational attitudes (e.g., Caspi, 1984; Seefeldt, 1987) and included only adjectives that could describe members of both age groups: skillful–clumsy, dependent–independent, active–passive, mentally lazy–mentally alert, helpful–not helpful, unfriendly–friendly, happy–sad, not likeable–likeable, interested–uninterested, and old-fashioned–modern.

Previous research on age stereotypes has been criticized because participants had to make a single rating of an entire age group, which cannot reflect the heterogeneity of these groups and may provoke stereotyped ratings. For this reason, we decided to alter the study design. For each group to be judged (elderly people in general, elderly group members, children in general, and children in the group), respondents could give up to 10 ratings. To facilitate this process, participants were given 10 pushpins for each pair of adjectives. These pins were to be inserted into a bulletin board listing the adjective pairs (e.g., old-fashioned–modern) and 6 possible scale points (1–6). Thus, participants could put all pushpins on one side (e.g., all elderly people are old-fashioned), or they could spread them across the scale points (i.e., in general, one half of elderly people are
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old-fashioned and one half are modern). Participants were asked to do the same regarding the specific elderly individuals they had worked with, with each pushpin representing a single group member. To ensure that participants distinguished among ratings of elderly people in general and the specific elderly individuals in their group and children in general and the specific children in their group, different-colored pushpins were used to represent each group.

The pushpins were large enough so as to not present problems for elderly participants with fine-motor skill deficits. A detailed explanation ensured that both the children and the elderly participants understood the rating procedure.

Self-concept was assessed using the same set of adjective pairs, but only one pushpin was used per pair.

In the first step of analysis, the means and standard deviations were calculated for every pair of bipolar adjectives. Factor analysis (principal-components analysis) showed that all adjectives loaded highly on one factor. Therefore, we transformed the scales so that higher values represented socially desirable traits and calculated average ratings across the 10 adjectives.

The frequency of contact with children and elderly individuals outside the group was measured using a 6-point rating scale (6 = every day; 1 = never). Wish for change in these frequencies was measured by the following item: “Would you like to meet older adults [children] 1 = much less often, 2 = somewhat less often, 3 = as often as before, 4 = somewhat more often, or 5 = much more often?”

RESULTS

Before testing the hypotheses, we analyzed the positivity of participants’ attitudes toward their own and the other age group at the first time of measurement. Rating an age group on the negative (i.e., socially undesirable) side of the bipolar scales would indicate a negative age stereotype (e.g., describing individuals as passive, unfriendly, or unlikeable). Comparisons between ratings of one’s own group and the out-group can be used as a second criterion of negative age stereotypes. If participants rate the other age group more negatively as compared with their own group, the existence of negative age stereotypes can be inferred.

Children’s Ratings of the Elderly

We did not find much evidence for negative age stereotypes among the children. On the contrary, there were no significant differences
between children’s ratings of elderly group members and the elderly participants’ ratings of each other. The elderly participants had somewhat more positive attitudes about themselves (i.e., self-concept) compared with the children’s attitudes about the elderly group members. However, this difference did not reach statistical significance ($t = 1.02, p < .31$, df = 50). In addition, the children rated the elderly in general (outside the group) more positively than did the elderly participants themselves ($t = -4.09, p < .001$, df = 50). When analyzing individual bipolar adjectives, we found that 8 of 10 ratings by the children of elderly people in general were significantly different from the zero point of the rating scale in the positive direction. Only the ratings of 2 adjective pairs, “old-fashioned–modern” and “mentally lazy–mentally alert” were in the neutral area of the rating scale.

**Elderly Participants’ Ratings of the Children**

The elderly participants rated the children as positively as the children rated their own age group ($t = .40, p < .70$, df = 50). In addition, there were no differences between the elderly participants’ ratings of the younger group members and the children’s ratings of each other ($t = -.48, p < .63$, df = 50). All attitudes of the elderly participants toward the participating children and 6 of the 10 ratings about children in general were significantly different from the zero point of the rating scale in the positive direction. The other 4 ratings by the elderly participants about children in general (independent, active, likeable, interested) were in the neutral range of the rating scale. We infer from this that at the first time of measurement the participants did not have distinct negative age stereotypes.

**Hypothesis Testing**

Hypothesis 1 posited that greater improvement in intergenerational attitudes would occur in the experimental group that cooperated in achieving a common goal than in the control group in which common goals were minimized. Separate one-fractional analyses of variance (ANOVAs) with repeated measures were used to analyze changes in attitude toward the other generation and to the specific members of the other age group in the two experimental conditions. In support of this hypothesis we expected an interaction between the intervention variable (experimental vs. control group) and time of measurement. Before testing the hypothesis we compared the pretests of the experimental and control groups. There were no significant attitudinal differences.
**Childrens’ Ratings**

When analyzing attitude changes toward elderly group members, we found a main effect of the time of measurement, $F(2, 52) = 5.33$, $p < .008$, but no interaction between time and group membership. As can be seen in Table 1, the children improved their ratings of the elderly participants in both the experimental and control conditions. This effect remains statistically significant when the first time of measurement is compared with the follow-up 7 weeks after finishing the group work, $t_{1-t_3}: F(1, 27) = 5.99$, $p < .02$. Attitudes toward the elderly in general improved between the first and second time of measurement, $F(1, 27) = 4.47$, $p < .05$. However, at Time 3, positive attitudes declined slightly, so that the difference between $t_1$ and $t_3$ was no longer significant, $t_{1-t_3}: F(1, 27) = 2.38$, $p < .13$.

**Elderly Participants’ Ratings**

There was a significant interaction between group membership and time of measurement for the changes in the elderly participants’ attitudes toward the children participating in the intervention, $F(2, 30) = 5.15$, $p < .01$. Attitudes changed in different directions between pretest and posttest for the experimental and control group conditions, $F(1, 17) = 4.13$, $p < .06$. Whereas elderly participants’ ratings of the children in the experimental group improved, there was a deterioration in ratings of the children, by the elderly participants in the control group (Table 1). However, the statistical interaction

**TABLE 1 Mean Ratings of Group Members and Other Generation in General According to Experimental Condition**

<table>
<thead>
<tr>
<th>Target</th>
<th>Group condition</th>
<th>Pretest</th>
<th>Posttest</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ratings of elderly group</td>
<td>Experimental</td>
<td>3.57</td>
<td>3.75</td>
<td>3.79</td>
</tr>
<tr>
<td>Control</td>
<td>3.23</td>
<td>3.62</td>
<td>3.39</td>
<td></td>
</tr>
<tr>
<td>Ratings of elderly group</td>
<td>Experimental</td>
<td>3.85</td>
<td>4.16</td>
<td>4.20</td>
</tr>
<tr>
<td>Control</td>
<td>3.42</td>
<td>3.82</td>
<td>3.70</td>
<td></td>
</tr>
<tr>
<td>Elderly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ratings of children group</td>
<td>Experimental</td>
<td>3.47</td>
<td>3.53</td>
<td>3.40</td>
</tr>
<tr>
<td>Control</td>
<td>3.33</td>
<td>3.39</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>Ratings of children group</td>
<td>Experimental</td>
<td>3.69</td>
<td>3.99</td>
<td>3.75</td>
</tr>
<tr>
<td>Control</td>
<td>4.11</td>
<td>3.61</td>
<td>3.72</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Semantic differential with 6 scale points (1–6). Values greater than 3.5 represent judgments in socially desired direction.
disappeared in the comparison of the pretest and the 7-week follow-up, $F(1, 17) = 1.53, p < .23$. The ratings of the participating children were closer to those of members of the control group at Time 3. Ratings by the elderly participants of children in general did not change at all during the intervention, $F(2, 30) = .27, p < .77$.

**Summary**

Hypothesis 1 was supported regarding attitudes of the elderly toward the younger group members. In contradiction to this hypothesis, however, children’s ratings of the elderly in general and of elderly group members in particular improved in the experimental condition of joint goals as well as in the control condition of minimal cooperation. Seven weeks following the intervention, only the children’s attitude changes remained significant.

An additional measure of the existence of stereotypical ratings was how each individual spread the 10 pushpins across each bipolar scale. If all pushpins were stuck into one scale level, an undifferentiated rating was present (i.e., all persons are considered to be this way). In contrast, a broader distribution of pushpins indicated a more differentiated view. We assessed with an ANOVA whether the extent of differentiation increased across times of measurement. However, there were no statistically significant changes in the variability within each set of adjectives across time.

In Hypothesis 2 we had expected that improvements in attitudes toward the other generation would be associated with increased desire for intergenerational encounters at posttest. Participants were divided into subgroups of those who improved their attitude toward the other generation and those who showed no change or a deterioration in their attitude. One-factorial ANOVAs were performed using the dependent variable “wish for contact.” The pretest of this variable was statistically controlled (Table 2).

This hypothesis was supported for elderly participants, $F(1, 17) = 6.62, p < .008$. However, for the children, there was no relationship between attitude change and wish for intergenerational contact, $F(1, 29) = 0.00 (p = 1.00)$.

In addition, we analyzed whether those participants whose attitude toward the other generation had improved during group participation reported more intergenerational contact at the time of follow-up. We computed partial correlations between attitude change and the frequency of talking to members of the other generation at the follow-up, with the contact frequency reported at Time 1 partialled out. For
TABLE 2 Desire for Future Intergenerational Contact (Posttest) According to Age of Participants and Changes in Attitude Toward Other Generation During Group Activity

<table>
<thead>
<tr>
<th>Participants</th>
<th>Participants with improved attitude</th>
<th>Participants with no improvement in attitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td>3.50</td>
<td>3.57</td>
</tr>
<tr>
<td>Elderly</td>
<td>2.78</td>
<td>3.70</td>
</tr>
</tbody>
</table>

Note. 1 = much less often; 2 = somewhat less often; 3 = as often as before; 4 = somewhat more often; and 5 = much more often.

the children, there was a positive correlation between the frequency of intergenerational contact and improved attitude toward the elderly in general \(r = .42, p < .03\), as well as attitude change toward elderly group members \(r = .34, p < .08\). Similarly, for the elderly, greater improvement in attitude toward children in general was associated with more intergenerational contact at the time of follow-up \(r = .55, p < .03\). However, associations between attitude change toward the children in the group and intergenerational contact independent of the intervention did not reach statistical significance for the elderly participants \(r = .23\).

Hypothesis 3 stated that participation in the intergenerational intervention would be associated with improved self-concept. To test this, ratings about the self on the 10 pairs of bipolar adjectives were first summed to create a measure of self-concept. We again performed a one-factorial ANOVA with repeated measures comparing changes in self-concept in the experimental and control conditions. We found

TABLE 3 Changes in Older Adults’ and Children’s Self-Concept

<table>
<thead>
<tr>
<th>Condition</th>
<th>Pretest</th>
<th>Posttest</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>3.62</td>
<td>4.06</td>
<td>4.07</td>
</tr>
<tr>
<td>Control</td>
<td>3.83</td>
<td>4.15</td>
<td>4.20</td>
</tr>
<tr>
<td>Elderly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>4.05</td>
<td>4.07</td>
<td>3.94</td>
</tr>
<tr>
<td>Control</td>
<td>3.78</td>
<td>3.73</td>
<td>3.65</td>
</tr>
</tbody>
</table>

Note. Semantic differential with 6 scale points (1–6). Values greater than 3.5 represent judgments in socially desired direction.
significant improvement in the children's self concept, $F(2, 52) = 14.31, p < .001$; Table 3. There was no interaction between time of measurement and group condition, however. Considering individual adjective pairs, both groups of children described themselves as more skillful, $F(2, 52) = 7.94, p < .001$; more mentally alert, $F(2, 52) = 6.14, p < .004$; and more independent, $F(2, 52) = 5.46, p < .007$. On the other hand, there were no significant changes in the self-concept of the elderly, neither for the summary variable, $F(2, 28) = 0.84, p < .44$, nor for a single dimension. Hypothesis 3, therefore, was supported only for the younger participants.

**DISCUSSION**

The purpose of this research was to analyze improvements in attitudes between children and elderly adults participating in intergenerational group activities. At the start of the project, the participants held predominantly positive attitudes toward the other generation. This may be an effect of the selection of participants: To be willing to take part in the group activity, at least some interest in intergenerational contact and positive expectations about the other participants were necessary. In addition, previous research has shown that, above all, positive attitudes of the elderly toward children seem to be widespread (Seefeldt et al., 1982). Although positive and neutral attitudes dominated in the beginning, improvements in intergenerational attitudes developed as a result of the intervention. These attitude changes provide support for the usefulness of intergenerational interventions. The strongest effects appeared in the ratings of the actual group members, whereas attitude changes regarding the other generation in general were smaller and, in part, nonsignificant. We infer from this that it is possible to change intergenerational attitudes over a short period of intervention, especially if the object of rating is concrete, as in the case of specific group members. On the other hand, general age stereotypes seem to be highly resistant to change (Schmitz-Scherzer, Backes, Friedrich, Karl, & Kruse, 1994). Therefore, time-limited positive interactions allow only minor change in these attitudes. In addition, intergenerational contact outside the group may be less positive compared with the group experience. In this case, participants perceive the group as a positive exception to the rule that is not sufficient to facilitate broader attitude change.

Most of the previous research did not investigate the stability of attitude change following the interventions. We were able to show that improvements in childrens' attitudes regarding elderly group members remained stable over a 7-week period whereas the elderly
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participants' attitude changes declined and were not significant at the time of follow-up. The stability of children's attitude changes at follow-up is consistent with the findings of Corbin et al. (1989) and Aday et al. (1996), who showed positive effects of intergenerational interventions on children's attitudes over a period of 1 to 5 years. Longer or repeated interventions may be necessary to further stabilize the improvement of the attitudes of elderly adults toward children.

The usefulness of a superordinate, common goal and of intergenerational cooperation on attitude change was demonstrated by the elderly participants, whereas the children improved their attitudes toward the elderly regardless of the amount of intergenerational cooperation. This effect, first, may stem from the fact—not intended by the experimenter—that in the control condition the children occasionally asked the elderly participants for help and, at times, received such support. Second, the experimental manipulation of the amount of intergenerational cooperation may not have been strong enough. For example, in the control group, there could have been separate puppet shows by the younger and older members. Third, because of their socioemotional development, the children in either the experimental or the control group may not yet have been able to understand the instructions. However, this is unlikely. Experiments by Sherif (1961) showed that, for elementary school children, experimental variations in superordinate group goals resulted in differences in intergroup attitudes and behaviors.

The hypothesis that improvements in intergenerational attitudes are associated with higher interest in intergenerational contact was supported for the elderly participants. Because the elderly participants generally had less frequent contact with children, we infer that under the condition of low contact frequency, it is easy to prompt wishes for more contact. In addition, because many elderly individuals live alone and have few social roles, they have fewer social ties compared with younger people (Lang, Staudinger, & Carstensen 1998). In such circumstances, interventions can increase interest in new contacts, especially if they are emotionally satisfying. The increase in intergenerational conversations in everyday life in those who improved their attitudes toward children in general supports the notion that interventions may have long-lasting positive effects on intergenerational social exchange. Unfortunately, we have only self-report data on the frequency of intergenerational contact. Therefore, we cannot be sure whether our intervention increased actual contact frequency or merely changed the subjective estimation of the frequency of intergenerational interaction.
In agreement with data from Lowenthal and Egan (1991) and Proller (1989, first study), we found an improvement in the self-concept of the younger participants, whereas the self-concept of the elderly participants did not change. Self-concept is based on lifelong accumulated experiences and becomes increasingly resistant to change (Atchley, 1989). Therefore, it should be easier to change the self-concept of children than that of elderly adults. In addition, a meta-analysis on psychosocial interventions with the elderly has shown that, compared with other kinds of interventions, interventions to improve social contact have relatively few effects on self-concept and psychological well-being (Pinquart, 1998). The children's self-concept improved mostly for those dimensions associated with learning new abilities and for using one's abilities during the group activity.

CONCLUSIONS

Several conclusions can be drawn from this study. First, the intergenerational group activity reported in this article should stimulate the implementation of intergenerational activities in the context of services for both the elderly and children. Intergenerational group work offers opportunities for learning for both the young and the old. Successful cooperation and support across generations can help to eliminate age stereotypes. This study showed that both generations benefit from such interventions.

Second, further research is needed on the malleability of intergenerational attitudes, especially on which factors influence attitude change. For example, according to social identity theory (Tajfel, 1978), the influences of perceived intergenerational similarity and perceived intragenerational heterogeneity should be investigated. In addition, more research on the effects of intergenerational interventions on individuals with strong negative attitudes toward other age groups is needed.

Finally, the data reported in this article show that short-term attitude change is easier to achieve than long-term change. To promote long-lasting attitude change between children and older adults, however, long-lasting or repeated interventions that include different forms of intergenerational cooperation are needed.

In addition, we should add that changes in age stereotypes should be promoted not only in the individual (e.g., through participation in intergenerational group work) but also in society in general. Improved images of old age in society (Schmitz-Scherzer et al., 1994)
by more realistic and differentiated portrayals of old age in the mass media, for example, is likely to reduce stereotyping.

REFERENCES


