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EFFECTS OF INTERGENERATIONAL INTERACTION ON AGING

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The world population pyramid has changed shape. However, this does not mean that societies have changed their negative concept of old age. Our study proposes an intergenerational service-learning program with 179 university students and 101 slightly depressed elderly people. The results show that the elderly people who interacted improved in well-being. Those interacting with the young people tended to lower their stereotyped perception of themselves, while the others tended to augment it. The young people tended to moderate their stereotypes of the elderly with or without interaction.

There have always been elderly people, but what is new today is that they now form the largest sector of the population in industrialized societies. However, elderly people are not preparing themselves for their longer lives, nor are we receiving any information about the aging process in our homes, schools, or communities in general (McGuire, Klein, & Couper, 2005). Nowadays, society tends to exclude the elderly. They are considered incompetent and are denied any responsibilities. This is far removed from previous societies in which, given their experience, the eldest members enjoyed a much higher status. They were
considered wise, the teachers, and the guardians of customs and traditions. They were the transmitters of their peoples’ history.

Our attitude towards old age is now rather negative. Young people, and even children, are particularly negative with old people, considering them pessimistic, conservative, and petulant. They even treat them derogatorily, as can be seen in the language they often use (Carstensen, Masson, & Caldwell, 1982; Hagestad & Uhlenberg, 2005; Hawkins, 1996; Meshel & McGlynn, 2004; Middlecamp & Gross, 2002; Prudent & Tan, 2002). A transcultural study of ageism carried out in different countries—Belgium, Israel, Japan, Costa Rica and Hong Kong—concludes that two main dimensions define aging: competence and benevolence. Elderly people were given far higher scores in the latter (Hardwood et al., 1996; Koyano, 1989; Tien-Hyatt, 1986–1987). The results of two more recent studies are in the same vein (Kite, Stockdale, Whitley, & Johnson, 2005). Some authors affirm that stereotypes are also maintained within the collective memory of elderly people, to the point of contributing to their lack of illusion or motivation.

A great number of people in this sector are slightly depressed and tend to consider themselves less productive than they really are. This is because of their preconceived idea that when you are older you lose faculties (Kahn, Zarit, Hilbert, & Niederehe, 1975).

In the past, the teaching of positive attitudes between people of different generations was carried out in the family. However, nowadays, individualism is one of the characteristics of our civilization, and the possibility of elderly people living in heterogeneous groups is slim (Pasupathi & Lochenhoff, 2002; Ruggles, 1994). Given that the tendency in the western world is towards the progressive aging of the population, this type of attitude, which will affect the future image that we have of ourselves on reaching old age, makes no sense.

There are various proposals for a change in attitudes in old age such as an active life-style for the elderly rather than sedentary aging (Cumming & Henry, 1961; Maddox, 1970). Others seem to favor social networks that facilitate intergenerational contact (Allport, 1954); since age segregation favors a lack of understanding and the generalization of behavior between age groups, we fall back on stereotypes, thus increasing our lack of possibilities to change our way of thinking.

In the field of education, experiments to favor this type of intergenerational networking are beginning to take place: in nursery schools (Gigliotti, Morris, Smock, Jarrot, & Graham, 2005) (telling the children stories about past experiences), primary schools (Marx, Pannell, Parpura-Gill, & Cohen-Mansfield, 2004) (teaching special needs
children different skills), and high schools (Sanders, Montgomery, Pittman, & Balkwell, 1984) (dealing with teenagers with behavioral problems). In universities (Hawkins, 1996) intergenerational networking is done through service-learning pedagogy, that is, experience-based learning that complements theoretical studies and also gives the students an opportunity to help the community (Rifkin, 1996).

In our study we analyze the effect of an intergenerational program on stereotyped attitudes towards elderly people and on their well-being.

**METHODOLOGY**

**Subjects**

The initial sample consisted of 101 elderly people with slight depression and an average age of 75 years (SD 6.00). The participants took part in weekly recreational activities (talks, excursions, cultural events weeks) in the San Andrés Local Council Social Centers in León, Spain (CEAS). The following were the criteria for inclusion: living alone, over 65 years old, average to low income, 8 years schooling, complaints of slight depression, and a score of no more than 18 on the Yesavage Depression Scale (Yesavage, 1983). Criteria for exclusion included not under medication for depression and/or severe mobility difficulties (need of a walking stick for standing).

The sample of university students consisted of 179 subjects studying for a degree in sport and exercise science at the University of León, Spain with an average age 19 years (SD 0.93). The following were the criteria for inclusion: not residing with their grandparents during the year of the study, and living in student flats or halls of residence throughout the experiment. The criterion for exclusion was living with elderly people.

**Materials and Method**

All the elderly people were tested using the Yesavage Geriatric Depression Scale (Yesavage, 1983) and the questionnaire for negative old age stereotypes (Montorio & Izal, 1991). The latter was also completed by the university students. The tests were carried out both before and after the 32 interactive sessions between the students and the elderly people. Of the 179 students, 79 participated in the service-learning pedagogy and the rest formed the control group. Thirty-four of the 101 elderly people took part in the students' movement program, and the rest made up the control group.
Procedure

The interaction between the young and the elderly people was based on service-learning pedagogy: Before their contact with the elderly people, the students were given training. Training consisted of five lectures on the psychology of life-span development and eight practical classes dealing with movement programs for elderly people. The practical classes were prepared by watching videos of elderly people doing movement exercises guided by trainers. Seventy-nine of the students were then divided into groups of five to prepare sessions to be carried out with the elderly people. Each group had to design a 50-minute session of games introducing various physical exercises (proprioception, coordination, laterality, orientation), starting and finishing with a 5-minute period of relaxation. The experiment was carried out once a week from October to May, with a total of 32 sessions.

The sample of the elderly people was divided into three groups. Group 1 was composed of 36 subjects, 7 men and 29 women, with an average age of 74 years (SD 7.7). The movement sessions were led by five university students, with the trainer as observer. Group 2 was composed of 35 subjects, 8 men and 27 women, with an average age of 75 years (SD 5.21). Their sessions were led by a trainer specialized in physical activities for elderly people. Group 3 was composed of 32 subjects, 2 men and 30 women, with an average age of 75 years (SD 5.11). They did not take part in the movement program, but they did attend the recreational activities organized by the local social center in San Andrés.

RESULTS

Depression Results

A repeated measure analysis of variance (ANOVA) with Session (pretreatment and posttreatment evaluation) as the within-group factor and Group as the between-group factor was conducted on test measures. This was done to evaluate significant differences across groups due to the treatment received. The significance level of all ANOVAs was evaluated with the Huynh-Feldt correction, where appropriate, as a precaution against inhomogeneities in the variances of the means. Analyses were performed using the SPSS v10.0 software.

For Group 1 there were significant differences between sessions ($F = 14.707, df = 35, p < .001$). These differences indicated a reduction of depressive symptoms scores obtained in the posttreatment evaluation. Similar to Group 2, results showed significant differences
between sessions ($= 2.822$, df $= 34$, $p < .008$), posttreatment evaluation scores were significantly lower as compared to pretreatment. However, this improvement is worse than that shown by Group 1. Finally, for Group 3 there were significant differences between sessions ($= −9.265$, df $= 31$, $p < .001$). These differences indicated an increase of the scores obtained in the posttreatment evaluation, revealing an increase of depressive symptoms (See Table 1).

A significant Session by Group interaction was found ($F_{2,100} = 121.528$, $p < .0001$). Further analyses revealed that there were no significant differences among groups in the pretreatment session. In posttreatment session, Group 3 obtained significantly poorer results in each of the dependent scores than the other groups. Also, Group 1 and 2 significantly differ in the posttreatment measures ($p < .0001$). Group 1 obtained the significantly lowest scores, indicating the absence of depressive symptoms (see Table 1).

**ANALYSIS OF THE STEREOTYPE QUESTIONNAIRE**

**Experimental Groups**

The group of students interacting with the elderly people gave their opinion of the elderly. In the pretest results 11% strongly disagree, 44% disagree, 39% agree, and 6% strongly agree. In the posttest results 12% strongly disagree, 48% disagree, 36% agree, and 4% strongly agree. From these results, we were able to draw a conclusion: on interaction with the elderly people, the young people tend to improve their opinions of them (see Figures 1 & 2, & Table 2).

The trainer who interacted with the elderly people shows the professional person’s opinion of this age category. In the pretest results 20% strongly disagree, 55% disagree, 25% agree and 0% strongly agree. In the posttest results 20% strongly disagree, 50% disagree, 25% agree, and 5% strongly agree. From these results we were able to draw a conclusion: on interaction with the elderly people, the

**Table 1. Averages and standard deviations on study**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group 1 (treatment with youngs)</th>
<th>Group 2 (treatment with professional)</th>
<th>Group 3 (control)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (M/F)</td>
<td>7/29</td>
<td>8/27</td>
<td>2/30</td>
</tr>
<tr>
<td>Age</td>
<td>74.29 (7.70)</td>
<td>75.63 (5.21)</td>
<td>75.23 (5.11)</td>
</tr>
<tr>
<td>Dep-Pre</td>
<td>15.15 (2.83)</td>
<td>13.80 (2.74)</td>
<td>12.22 (1.40)</td>
</tr>
<tr>
<td>Dep-Post</td>
<td>11.62 (3.07)</td>
<td>12.69 (3.4)</td>
<td>14.94 (2.28)</td>
</tr>
</tbody>
</table>
A professional person tends to augment the stereotype (see Figures 3 & 4, & Table 2).

The group of elderly people who interacted with the young people shows the opinion the elderly have of themselves. In the pretest results 15% strongly disagree, 28% disagree, 37% agree, and 20% strongly agree. In the posttest results 18% strongly disagree, 27% disagree, 37% agree, and 18% strongly agree. From these results we were able to draw a conclusion: on interaction with the young people, the elderly people tend to improve their opinions (see Figures 5 & 6, 7 Table 2).
The group of elderly people who interacted with the professional trainer shows the opinion the elderly have of themselves. In the pretest results 10% strongly disagree, 33% disagree, 40% agree, and 17% strongly agree. In the posttest results 15% strongly disagree, 28% disagree, 37% agree, and 20% strongly agree. From these results we were able to draw a conclusion: on interaction with the professional person, the elderly people tend to augment their opinions on stereotypes (see Figures 7 & 8, & Table 2).

**Control Groups**

The group of young people who did not interact with the elderly people shows young peoples’ opinions of the elderly. In the pretest results 20% strongly disagree, 43% disagree, 31% agree, and 4% strongly agree. From these results we were able to draw a

<table>
<thead>
<tr>
<th></th>
<th>Youngs with older</th>
<th>Older with professional</th>
<th>Older with youngs</th>
<th>Control elder</th>
<th>Professional</th>
<th>Control youngs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>6%</td>
<td>4%</td>
<td>17%</td>
<td>20%</td>
<td>20%</td>
<td>18%</td>
</tr>
<tr>
<td>Agree</td>
<td>39%</td>
<td>36%</td>
<td>40%</td>
<td>37%</td>
<td>37%</td>
<td>37%</td>
</tr>
<tr>
<td>Disagree</td>
<td>44%</td>
<td>48%</td>
<td>33%</td>
<td>28%</td>
<td>28%</td>
<td>27%</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>11%</td>
<td>12%</td>
<td>10%</td>
<td>15%</td>
<td>15%</td>
<td>18%</td>
</tr>
</tbody>
</table>

Table 2. Percentage of answers on test, Pre- and post- youngs and older people
conclusion: the young people tend towards less extreme scores, even if they do not interact with the elderly people (see Figures 9 & 10, & Table 2).

The group of elderly people who did not interact with the young people shows the opinion the elderly have of themselves. In the pretest results 11% strongly disagree, 26% disagree, 42% agree, and 19% strongly agree. In the posttest results 9% strongly disagree, 30% disagree, 35% agree, and 26% strongly agree. These results allow us to draw a conclusion: the elderly people with no interaction with the young people tend towards very strongly stereotyped scores on themselves (see Figures 11 & 12, & Table 2).
DISCUSSION

The state of mind of the elderly people participating in the movement program improves significantly, particularly among those who interacted with the young people; the state of mind of the group that did not interact worsened significantly. Both the group of the elderly people and the group of the young people that interacted tended to reduce their stereotypes; the elderly people with no interaction with the young people augmented their stereotypes. However, the young people who did not interact with the elderly people show a tendency towards moderating their stereotypes.

Some researchers affirm that the social model influences our perception of negative characteristics (sadness, inflexibility, pessimism, complaining) in elderly people. In countries such as China, young
people show more negative characteristics in their attitudes towards the elderly, due to the importance of the value of the family (Hawkins, 1996; Mehta, Tan, & Joshi, 2000; Sanders et al., 1984). Other researchers ratify these affirmations, considering that young peoples’ perceptions of the elderly depend on the frequency of their contact with them, since their perceptions are significantly better when there is interaction (Kimuna, Knox, & Zusman, 2005). However, other authors relate the negative stereotypes that elderly have of themselves to a depressive personality characteristic which makes them worry about aging and become more aware of the old-age related changes in their abilities (Kahn et al., 1975; Scogin, Storand & Loot, 1985). Our results confirm the hypothesis of the influence of the social model. Both the attitude towards themselves and the

Figure 8. Post older with professional.

Figure 9. Pre control youngs.
state of mind of the elderly people who interacted with the young people improve, while the elderly people with no type of interaction augment their negative attitudes and become more depressed. These results could be related to the greater or lesser network of social support enjoyed by the elderly people, rather than to a depressive personality characteristic.

In the case of the young peoples’ stereotyped attitudes, these tend to reduce in all the students, both with and without interaction. This contrasts with studies in which a change of stereotyped attitudes occurs in young people interacting with elderly people but not in those who do not (Dorfman, Murty, Ingram, Evans, & Power, 2004; Rosher & Robinson, 2005). Our results may have been influenced by the fact that the interaction was based on a deficiency (negative stereotype)—improving elderly peoples’ mobility. However,
it is important to note that the young people started with moderate replies to the old age stereotypes, which would indicate that the educative influence transmitted by the family of the value of the older person still continues, as confirmed in other studies (Hawkins, 1996; Sanders et al., 1984).

That the elderly people interacting with the young people reap greater benefit, both in the reduction of stereotypes and in the improvement of their well-being, than those interacting with the professional trainer, is related to the benefit in itself of intergenerational relations with young people (Gigliotti, Morris, Smock, Jarrot, & Graham, 2005; Herrmann, Sipsas-Herrmann, Safford, & Herrmann, 2005). One of the reasons for this type of contact having such a positive influence is the that the elderly feel useful (Burgess, 1960): those in our study knew that their participation in this service-learning program was aiding the students university studies. These results are confirmed by other service-learning pedagogical projects (Marx et al., 2004; O’Quin, Bulot, & Johnson, 2005; Shaw, 2005). This type of contact has also been related to higher scores in life satisfaction among elderly people (Philip Tan, Zhang, & Fan, 2004).

At present, the results of research into the effect of intergenerational experiments designed to promote more positive, less stereotyped attitudes towards old age are contradictory (Meshel & McGlynn, 2004). This has been confirmed by certain results in our study: (a) the students’ tendency to moderate stereotyped answers, with or without intergenerational interaction; (b) the tendency of both the elderly people and the professional trainer with whom they interacted to augment stereotyped answers; (c) the improvement of depressive symptoms among the elderly people who interacted
compared with the worsening among those who did not contradicts the results of investigations that relate the stereotypes of the adults with a depressive personality (Friedman, 1964; Kiloh, 1961).

In conclusion we can deduce that these contradictory results could be related to a lack of knowledge about aging (McGuire et al., 2005). Old age is not a new issue; however, great numbers of elderly people and an aging population are. This makes it necessary to foster an understanding of growing old among people of all ages.

REFERENCES


