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The Effects of Two Types of Intergenerational Programs on Preschool  
Children's Attitudes Toward the Elderly

Margaret Harvey Patten

A Thesis  
in  
The Department  
of  
Education

Presented in Partial Fulfillment of the Requirements  
for the Degree of Master of Arts (Child Study) at  
Concordia University  
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## ABSTRACT

The Effects of Two Types of Intergenerational Programs on Preschool  
Children's Attitudes Toward the Elderly

Margaret Harvey Patten

Although the number of intergenerational programs is growing rapidly limited research exists concerning the most effective type of contact between preschool children and senior volunteers. In the present study the type of structure (unstructured visits or cooperative activities) and the implementer (senior volunteer or teacher) were manipulated. Six female senior volunteers, over the age of 65 years, were trained to interact with children in an developmentally appropriate manner. Attitudes toward the elderly of seventy-two 3- and 4- year-olds were assessed before and after the nine-week intervention using: the adapted semantic differential task of the Children's Attitudes Toward the Elderly scale (Jantz, Seefeldt, Galper, & Serlock, 1976), a sociometric task, the Prosocial Behavior in Young Children measure (Dellmann-Jenkins, Lambert, & Fruit, 1991) and a sticker sharing task (DeBellefeuille, 1989). Results of the posttest scores provided support for the hypothesis that children in the senior contact conditions would have more positive attitudes toward the elderly than those in the no contact conditions. Children in the senior contact condition selected seniors significantly more often as being friendly, would ask an older person for help if lost, and were more willing to help, share and cooperate with the elderly. Children in the control group were significantly more likely to select an old person as being slow, and significantly less likely to select seniors to be their friend, to play with or to help

their teacher. Limited support was found for the hypothesis that children in the senior cooperative condition would display the most positive attitudes toward the elderly.

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## INTRODUCTION

In Canada today, the senior citizen population is growing at a rapid rate. According to the 1991 Canadian census, there are more than 3.2 million Canadians over the age of sixty-five or 9.5 percent of the population. By the year 2000, this figure is expected to increase to 13 percent. This is the fastest growing sector of our population. Even though the percentage of elderly people is increasing, opportunities for contact between children and their grandparents are becoming fewer. Several reasons for this decreased contact may be due to the rise in the number of divorces, families becoming more transient, and a deteriorating extended family network. Mead (1970) writes that in many cultures, children learn rituals and traditions from elders of the society; however, as the links between the present and the past become weaker, children miss out on valuable experiences that elders could provide. Baum, Newman, and Shore (1982) also stress the importance for interaction and contact among people of different ages "to preserve continuity from generation to generation" (p. 1). These changes in modern society make it increasingly difficult for three different generations to share and learn from each other (Seefeldt, Jantz, Serlock, & Bredekamp, 1979). This has led educators, and others who work with children, to consider different methods of providing opportunities for the youth and the seniors of our country to interact. As a result, intergenerational programs, which bring children and seniors together, have been developed. The purpose of this study is to examine the effects of two different types of intergenerational programs on preschool children's attitudes toward the elderly.

This introduction will briefly provide a rationale for using Eriksonian and Piagetian theories in developing intergenerational programs. Several current issues in developing effective programs for seniors and children will be addressed.

The work of Erikson (1963, 1981) suggests that contact between generations is important for the full development of both children and seniors. Erikson states, "I'm convinced that old people and children need one another and that there's an affinity between old age and childhood that, in fact, rounds out the life cycle." (cited in Hall, 1987, p. 131). Erikson's work (1963) would indicate that contact between the generations can facilitate identity development of both children and seniors. Children can benefit from relationships which foster trust, autonomy, independence and competence. The process for seniors can provide opportunities for being productive and involved with the next generation.

Piaget's theory of knowledge acquisition may be used to explain that through intergenerational exchange children can accommodate new information about the elderly into their existing schemas. Piaget believed that as a child actively explores and responds to his environment he gains understanding about new objects and events (Ginsburg & Opper, 1988). It is through the action of the child that cognitive development occurs. Intergenerational exchange can provide opportunities for children to interact with healthy, active, older people, thus enabling children to create new or modify existing schemata about older persons.

Educators and parents generally believe that contact between children and senior participants in an intergenerational program is positive and beneficial (Liebman, 1986; Lowenthal & Egan, 1991; Sheehan, 1978; Ventura-Merkel & Freedman, 1988; Ziembra, Roop, & Whittenberg, 1988). Seniors report that they feel useful and young again. Teachers report that the interactions between the children and seniors are happy, friendly and very beneficial. Yet, the basis for these feelings is anecdotal and frequently recounts interpretations of young children's and seniors' beliefs by teachers and parents. While

intergenerational programs do have beneficial outcomes (according to anecdotal accounts), they are not always overwhelmingly positive

Through personal observations of a variety of intergenerational exchanges (both informal and planned), little contact between children and senior volunteers was seen. During periodic visits (once or twice a year) to a senior's home, girls aged 9 to 12 were willing to sing and "perform" skits and plays for the seniors, but were hesitant and unsure about actually interacting and conversing with the residents. Younger children often commented that the older persons looked funny, sick, and unfriendly. Children were often apprehensive about these visits, and the seniors seemed bewildered with all the visitors. In an intergenerational program in a preschool centre, senior volunteers visited three mornings a week. Quite often, senior volunteers would spend most of their time chatting with fellow volunteers rather than interacting with the children. Any contact which did occur was generally initiated by the senior and not the child. This contact usually involved the seniors providing the children with directions, or with "scoldings". Sex-role stereotyping was very evident on the part of many of the seniors.

Sometimes, children hold negative stereotypes about the elder members of society. Through socialization and exposure to different types of media (e.g., books, magazines, television), children develop a set of expectations of roles for different members of society. Several studies have investigated how grandparents and seniors are depicted in the children's literature and have found that this segment of the population is usually portrayed in a negative manner (Almerico & Fillmer, 1988; Janelli, 1988). The senior population is a diverse group, yet this diversity is not seen in children's literature (Janelli, 1988)

Researchers have found that as children grow older their attitudes toward

the elderly become more negative (Burke, 1982; Hickey, Hickey, & Kalish, 1968; Jantz, Seefeldt, Serlock, & Galper, 1976; Miller, Blalock, & Ginsburg, 1984; Weinberger, 1979) These negative attitudes can hinder positive intergenerational relationships, because children are not likely to interact with people they view as being unfriendly, sick or funny looking. As aging affects everyone, holding negative attitudes toward aging could be a potentially dangerous problem for one's self-esteem (Seefeldt et al. , 1979). Trent, Glass, and Crockett (1979) suggest that the most advantageous time to implement contact between youth and older persons is in early childhood while attitudes are not yet "crystallized" (Davis & Westbrook, 1981).

While the results of the attitude studies that exist are mixed, there is a trend that younger children without contact with older persons hold more negative attitudes toward the elderly than children with contact. It is not clear, however, what type of contact between seniors and children is necessary to foster positive relations. Dellmann-Jenkins, Lambert and Fruit (1991) discussed the need for direct contact between the two groups, but did not indicate what type of contact is needed. If seniors learn to interact with children in positive ways, children's attitudes might improve. Through concrete experiences with seniors, children can construct new schemas for the elderly. However, will the mere presence of seniors during freeplay enhance children's attitudes toward the elderly or should seniors be more actively involved for example, playing cooperative games with the children?

Cooperative activities may be appropriate for seniors to use with children in order to increase "developmentally appropriate" contact. Cooperative activities themselves force the participants to be active, involved and to interact with each other. In the intergenerational programs cited above, the senior volunteers often did not seem to be aware of their role with the children.

Consequently, the interactions between seniors and children were either nonexistent or not very positive. The very nature of a cooperative strategy means that two groups will work together toward a common goal.

Seefeldt (1987b) adapted Amir's (1969) contact hypothesis for use in intergenerational settings. Amir developed a set of conditions which should be present in order for contact between two diverse groups to be successful. First, there should be equal status between the groups, both groups should be treated with respect and prestige. Second, the contact should be intimate and ongoing rather than casual, sporadic visits. Third, the activities should be interesting and fulfilling for both groups. Finally, each group should be involved in important activities rather than "make-work" projects. In the present study, two nine-week programs, one of unstructured freeplay involvement, the other cooperative activities, were designed to fulfill these conditions.

In summary, Seefeldt (1987a) suggests that the number of intergenerational programs, especially those involving preschool children and seniors, are growing rapidly, yet the effectiveness of these programs has not yet been established. Most of the empirical work in the area of intergenerational contact has investigated children's attitudes toward the elderly. Based on this previous work, the present study investigated the impact of types of activities that seniors and children participate in together on children's attitudes toward the elderly. The following sections review the theoretical rationale for the study, and the empirical research concerning the development of attitudes toward the elderly, and intergenerational programs. Cooperative learning and a rationale for its use in this study will also be presented.

### Theoretical rationale

Using a lifespan perspective, Erikson believes that identity development is a lifelong process which begins to develop in infancy and continually

changes and evolves throughout an individual's entire life. Erikson's (1963) theory of psychosocial development consists of eight stages of crisis or conflicts which an individual resolves in order to develop his/her identity. A variety of studies support Erikson's theory, however, much of this research has focused on the development of college students' identities (Perlmutter & Hall, 1985). Gould (cited in Novak, 1988) observed and questioned over 500 men and women between the ages of 16 and 50 years. He found support for Erikson's theory that adults faced predictable crises throughout adulthood. Darling-Fisher and Leidy (1988) modified the Erikson Psychosocial Stage Inventory to assess 19 to 86 year old males' and females' development of psychosocial attributes. A positive correlation between chronological age and the attributes of adulthood was found.

In order to understand Erikson's (1963) theory fully, the eight stages will be briefly outlined, then discussed in relation to intergenerational programs. Each issue is particularly evident at one point in time but also appears at other stages of development. At each stage, the individual is faced with a crisis or conflict that must be resolved. As the individual interacts with the environment and resolves each crisis his/her identity continues to develop and emerge.

Basic Trust versus Mistrust (0-2 years) is the first stage described by Erikson. The main task in infancy is to begin to trust others. The infant with a sense of trust will be able to predict that food and comfort will be provided, and that the primary caregiver(s) will come to answer the infant's needs. The infant believes in his abilities to affect the world around him. An infant who resolves this stage with a sense of trust will have a basis on which to form future trusting relationships with others. If this stage is not resolved successfully, feelings of mistrust and the inability to form trusting relationships with other may result.

Autonomy versus Shame (2-3 years) is the second stage. With physical



maturation, the child now has the ability to be somewhat autonomous and have a sense of self-control. When the adults at this stage are supportive and encouraging and if opportunities are presented for the child to explore and be independent, this stage is resolved positively. If the child is not permitted any autonomy or is continually ridiculed, feelings of shame and doubt will prevail.

Initiative versus Guilt (3-5 years) is stage three. As the child explores the world, this is a time for imagination, questions and reasoning. Through positive experiences with materials and positive interactions with others, children gain confidence and will be willing to try novel activities in the future. The child with initiative is gaining the ability to plan to attempt to achieve a goal. Relationships and identification with parents and other caregiver(s) are important. The negative resolution of this stage is that the child does not have the confidence to take risks.

Industry versus Inferiority (6-11 years) generally occurs with the beginning of school. The child is ready to learn the tasks of schooling. Successful experiences provide the child with feelings of competence and a strong sense of industry. The danger at this stage is that a child will feel inferior and inadequate.

During the early adolescent years the stage of Identity versus Role Diffusion begins. The adolescent is trying to determine his/her personal values and ideals and how to contribute to society. It is also during this stage that earlier problems, remaining from previous stages, may be reworked.

Intimacy versus Isolation occurs in young adulthood. Intimacy allows an individual to understand and to be understood by others. An individual who does not have a healthy sense of intimacy may feel isolated and alone

Generativity versus Isolation, and Ego Integrity versus Despair are most relevant for older members of society. In order to develop a concept of

Generativity, the elder may be involved with "establishing and guiding of the next generation " (Erikson, 1963, p 267). This could involve nurturing through child rearing or other productive endeavors. Traditionally, generativity was expressed through parenting and grandparenting (Hall, 1987). It is important that seniors are involved in 'real' and important jobs and not simply 'make work' projects. Self-absorption or boredom is the danger of a negative resolution of this stage.

In the final psycho-social stage, Ego Integrity versus Despair, individuals reflect on their lives, on their successes and shortcomings. This is a time to integrate all of the other stages. The elder who regrets what he has done or not done in life and fears death is facing Despair.

An intergenerational program could provide opportunities for children to develop a healthy sense of identity in the early years. Seniors could help in the provision of a trusting and supportive atmosphere for children (basic trust), recognize children's efforts for independence (autonomy) and provide activities which allow children to succeed (initiative and industry).

For seniors, the intergenerational exchange could provide opportunities to care for and guide the future generation. In addition, feelings of self-worth and self-confidence would be enhanced. Seniors would also be stimulated physically, emotionally, and socially (Newman & Riess, 1990).

Intergenerational contact would allow seniors to share their experiences in life with others, thus aiding the process of positively resolving the generativity and ego integrity stages.

#### Piaget's theory of cognitive development

Through active exploration of the environment and physical manipulation of materials children learn about the world. It is through the action of the child that new schemata (mental structures) are formed and cognitive development

will occur. Two processes are central to Piaget's theory: assimilation and accommodation. When a child integrates new information into existing schemata, assimilation is said to have occurred. On the other hand, accommodation occurs when a child creates new, or modifies old, schemata.

According to Piaget there are three types of knowledge: physical, logical-mathematical and social-arbitrary (Wadsworth, 1979). Physical knowledge is attained as a child manipulates objects with his/her senses. Logical-mathematical knowledge is constructed as the child acts upon objects. Social-arbitrary knowledge, the knowledge of rules, values, morals, ethics and language systems, is constructed through interactions with others. It is this last type of knowledge that is of importance in an intergenerational program.

In a well-planned intergenerational program, children have the opportunity to interact with healthy active older persons. Through these positive active interactions with seniors a child can create new schemata or build upon his/her existing schemata regarding his knowledge, and understanding of seniors. If previous experiences with seniors have been negative then the schemata of seniors could be accommodated to form a more positive view of this group.

### Attitudes

Much of the empirical research investigating intergenerational programs has focused on attitudes toward the elderly. Before reviewing the relevant attitude literature, a brief overview of attitude formation will be presented.

Allport defined an attitude as a "mental and neural state of readiness, organized through experience exerting a directive or dynamic influence upon the individual's response to all objects and situations to which it is related." (Allport, 1967, p. 8). This disposition to act can either be in a favorable or an unfavorable manner. Attitudes may be directed toward persons, situations or

ideas (Triandis, 1971). Triandis defined an attitude as "an idea charged with emotion which predisposes a class of actions to a particular class of social situations" (p. 2). This definition suggests three components of an attitude. First, there is a cognitive component. An individual has knowledge about the attitude object. Second, there is an affective component and an individual may have positive or negative feelings toward the attitude object. The attitude object in the present study is a segment of the population, the elderly. Third, a behavioral component, which is the predisposition to act. An individual may make verbal statements concerning behavior toward an attitude object or may act overtly.

Klausmeirer and Ripple (1971) reported that attitudes are formed early in life and are fairly stable influences. It is generally agreed that attitudes are learned and they can be learned through a variety of processes (Triandis, 1971). First, an attitude can be the result of integrating various direct experiences with the attitude object. It is through these types of experiences that the most intense attitudes are produced (Trent et al. , 1979). Second, attitudes may be ready-made, that is they are learned through imitation of parents, peers or teachers (Trent et al. , 1979). Attitudes may also be learnt through exposure to television, books and magazines. Trauma such as a single intense emotional experience also can lead to attitudes about a person, place or thing.

Click and Powell (1976) suggested that negative stereotypes (e.g., age-ism) influence our perceptions about what is appropriate or inappropriate behavior. These negative attitudes may, in fact, impede a person's actions, thus making the possibility of improving contact across the generations difficult. However, if negative attitudes are learned, then more positive ones can also be learned (Trent et al. , 1979).

Triandis proposed three ways in which attitudes can be changed: provide new information (cognitive), provide for pleasant experiences with or in the presence of the attitude object (affective), or impose mandatory changes in the norms (behavioral)

Attitudes toward seniors have been identified through a variety of methods including: interviews (Page, Olivas, Driver, & Driver, 1981; Seefeldt, 1987), Likert scales (Rich, Myrick, & Campbell, 1983), pictures (Burke, 1983; Seefeldt, Jantz, Galper, & Serlock, 1977; Sheehan, 1978), open-ended questioning (Jantz et al. , 1976; Marks, Newman, & Onawola, 1985), sentence completion tasks (Couper, Sheehan, & Thomas, 1991), semantic differential scales (Caspi, 1984; Couper et al. , 1991; Dellmann-Jenkins et al. , 1991; Dellmann-Jenkins, Lambert, Fruit , & Dinero, 1986; Jantz et al. , 1976; Marks et al. , 1985), story writing (Hickey, et al. , 1968; Thomas & Yamamoto, 1975), questionnaires (Olejnik & LaRue, 1981), and word association (Jantz et al. , 1976).

The following section will review the literature that has investigated children's attitudes toward the elderly. These studies can be grouped into three categories: 1.) Studies investigating attitudes toward the elderly. 2.) Studies investigating the effects of intergenerational programs on attitudes toward the elderly. 3.) Studies investigating the influence of both intergenerational program and an educational curriculum on attitudes toward the elderly.

#### Attitudes toward the elderly

Early work in this area focused on the attitudes of college students toward old people. Tuckman and Lorge (1953) administered a Yes/No questionnaire containing common misconceptions and stereotypes to 145 graduate students. The results indicated that this group viewed old age as a time of poor health, loneliness, decreased mental and physical health. In

addition, old persons were identified as being very resistant to change. Similar results have been found in studies by Kogan (1961) and Tuckman & Lorge (1958). McTavish (1971) reviewed over 300 research articles and concluded that many members of society view the elderly in negative and often stereotypical ways. Davis (1988) found that undergraduate students held mixed attitudes toward the elderly. Old people were characterized as being intelligent and an important part of society, yet also were seen as bored, unhappy with retirement and financially dependent upon their children.

Hickey et al. (1968) carried out one of the first studies investigating children's attitudes toward the elderly. Children attending third grade, in four different schools, were asked to write a story about an "old person" such as a grandparent. The stories were analyzed and coded according to physical or social characteristics. The children wrote that old people had auditory problems, ambulatory difficulties and were feeble. Socially, old persons were referred to as kind, mean, friendly, lonely and poor. Children from wealthy families were three times as likely to write that old persons were kind and friendly. This study indicates that children as young as eight years of age have formed ideas and concepts about old age and that attitudes about older persons are beginning to solidify (Hickey et al. , 1968). However, some of these attitudes fall into negative stereotypes.

Thomas and Yamamoto (1975) showed newspaper photographs of three men (ages 30, 50 and 70) to 1000 students in Grades 6, 8, 10 and 12. The subjects were shown the pictures in a random order, and asked to write a story about each of the men in the pictures. The order of the story writing was left for the children to decide. The overall results showed that children chose to write about the men in the following order: young man, older man and finally the middle age man. A semantic differential was also given and results indicated

that the children did not share the generally negative attitudes toward old age. However, the older children rated old persons on the lower end of the positive scale, for example old persons were rated as being less exciting, less happy and less pleasant than either middle age or young persons. The youngest children gave the most positive responses of all subjects.

A widely used instrument designed to assess attitudes is the Children's Attitudes Toward the Elderly scale developed by Jantz et al. (1976). The authors suggest that this measure assesses children's attitudes through affective, behavioral and knowledge components using the following subtests: word association, semantic differential, picture series and individual interviews. The first three subtests measure children's attitudes, the fourth subtest measures children's understanding of the concept of age. All subtests are administered individually. The word association subtest is designed to elicit responses through open-ended questions. The semantic differential subtest uses 10 standardized bi-polar scales (e.g., happy/sad, sick/healthy, rich/poor, dirty/clean, friendly/unfriendly) to assess attitudes toward young and old persons. The picture series, the third subtest, uses lifelike drawings of a man in four stages of life. The authors ensured the drawings were consistent in terms of sex, race, facial expression and clothing. It would be interesting to include pictures of females in this subtest to determine if there would be any differences in children's attitudes toward elderly males and females. The fourth subtest, a Piagetian-based test is used to explore a child's concept of age.

Jantz, Seefeldt, Galper, and Serlock (1977) used the Children's Attitudes Toward the Elderly scale to assess children's perceptions of older people. In this cross-sectional study, it was found that children aged 3 - 11 years held mixed attitudes toward the elderly. Generally, children saw old people as sick, ugly and sad. Page et al. (1981) gave the Children's Attitudes Toward the

Elderly scale to children attending a university campus school. Ten to twenty children from each grade, nursery through grade 6 were interviewed. Children were asked what types of activities they did with old people, and results indicated that the limited amount of time spent with old people was involved with passive activities such as watching television. A third of the children indicated that old persons did things for the children (e.g., take the children places or bought the children things), however, few children mentioned doing things for the older persons. Over 73% of the subjects preferred spending time with younger people.

Chitwood and Bigner (1980) asked preschool children to order drawings of young, middle and old-aged people from oldest to youngest. After ordering the drawings, children were asked to point to the person they thought best fit a given adjective. A total of 16 adjectives were used: good, happy, pretty, right, clean, friendly, healthy, rich, sad, wrong, bad, ugly, poor, dirty, not friendly, sick. Parents completed a questionnaire to determine the amount of time children spent with elderly individuals (over the age of 65). Children assigned significantly more negative responses to the oldest figure (53% for the male figure and 51% for the female figure) than to the youngest or middle age figures of either sex. The most common negative adjectives assigned to older persons were: ugly, poor, dirty, not friendly and sick. A significant positive association was found between the amount of time children spent with an elderly babysitter and the number of positive adjectives assigned to the drawings of old-aged persons. Results of the parent questionnaire showed that only eight children in the study (N = 35) saw an elderly person every day or once or twice a week, while the majority of children saw elderly people once a month to once or twice a year. Chitwood and Bigner suggest that the children's negative attitudes may be due to the very limited contact and experience with the elderly.



Another study investigated children in grades one through five who were shown pictures of young persons (mid 20's) and old persons (over 60 years) and were asked to respond to a variety of sociometric questions and a semantic differential (Fillmer, 1982). Sociometric questions included: Would you like this person to be your friend?, Would you like this person to sit next to you on the bus? and Would you like to visit this person? The semantic differential adjectives included: happy/sad, ugly/pretty, rich/poor, sick/healthy, and friendly/unfriendly. It was found that most responses were positive for young persons, and negative for older persons. Fillmer also noted that boys were more negative in their sociometric responses than girls. The sociometric questions tap the behavioral component - the predisposition to act - of attitudes, therefore, this may imply that girls may be more willing than boys to interact with older persons. In a similar study with children in grades 4, 5 and 6, Fillmer (1984) found that old people were rated higher than young people on the semantic differential, yet on the sociometric measure the opposite rating occurred (i.e., young persons were rated significantly higher). A possible explanation for this is that children may feel "safer" describing old people in positive terms than in actually interacting with them. The thought of associating with old people may make children uncomfortable. The results of the two studies indicate that children's views of old age are mixed and can vary from group to group. Nishi-Strattner and Myers (1983) found that 4th, 5th and 6th grade children generally held positive attitudes toward the elderly as measured by a Yes/No attitude questionnaire. The authors suggest that this may be due to the regular contact the children had with their grandparents (over 76% of the subjects reported weekly contact with grandparents).

Burke (1982) also used pictures to assess attitudes; children 4 to 7 years of age pointed to the photographs of the persons who best fit the particular

sociometric question asked. Two picture boards, one all male, the other all female pictures, contained a total of 12 pictures alternating young person (25 - 35) and older person (over 65). Questions included: "Who's busy?", "Who's sad/lonely?", "Who helps you a lot?", "Who's happy?". The results revealed that older people tended not to be chosen by the children, and when chosen they were seen as sad, and having significantly more free time than younger people. Young persons were chosen significantly more than older people in 14 of 16 sociometric questions, such as: busy, happy, helpful, knowledgeable and most desirable as teachers. Similar results have been found by Miller et al. (1984) and Weinberger (1979)

Children aged 5 to 15 years living in Australia, England, Sweden, and North America (both Canadian and American) participated in individual interviews (Goldman & Goldman, 1981). Through a variety of open-ended questions, the results showed that negative descriptions of old age were universal, with the major negative characteristics being, disease, death, senility, illness and loneliness. At age seven, the negativism increased sharply for Australian and English children, whereas North American and Swedish children increased the negative descriptions at age 11. Children in the youngest age group (5 to 7 years) tended to provide the most positive images of older people, most frequently mentioning that old people were kind. Goldman and Goldman suggest two possible reasons for the positive responses from the youngest children: firstly, it may be the result of contact with grandparents (although this was not investigated in the study) secondly, this group often mentioned receiving sweets and toys from older people, therefore, the youngest children saw the positive features of the elderly in egocentric terms.

While the studies discussed use various methodologies and measures, it is evident that attitudes change with development. That is, even though young

children hold negative attitudes toward the elderly, these become increasingly negative as children grow older. This would indicate that the most advantageous time to implement intergenerational contact would be in early childhood while attitudes are not yet firmly established (Davis & Westbrook, 1981; Trent et al. , 1979). Attitudes are formed in part due to outside forces such as family values, peer interactions, media and teacher influences (Aday, Sims, & Evans, 1991). Aday et al. suggest that if a child's exposure to an attitude object is negative then it is very likely that the child will hold negative attitudes. Klausmeirer and Ripple (1971) suggest that once attitudes and stereotypes are formed they are relatively stable. As aging affects everyone, holding negative attitudes toward aging could be a potentially dangerous problem (Seefeldt et al. , 1977). In the extreme case, these attitudes could lead to lower feelings of self-esteem (Seefeldt et al.). In order for attitudes toward the elderly to be positive it is important that children are exposed to nonstereotyped learning materials and experiences. Contact with healthy, active, older people also may be an important way to provide children with positive role models of the elderly.

Burke (1982) believes that as attitudes are formed during the early years, this is the ideal time for implementing and fostering intergenerational relations. The idea of early intervention is also supported by Seefeldt et al. (1977). Yet, little empirical work has focused on the impact of these programs on children. The following section reviews the studies that have investigated the impact of intergenerational programs on children's attitudes toward the elderly.

#### Intergenerational programs and attitudes toward the elderly

Intergenerational programs have been developed to provide for mutually beneficial exchange across generations. Participants in these programs are generally over 60 years and under 20 years of age. Intergenerational programs vary widely in terms of types of activities, length of program and training for

senior volunteers

Couper et al. (1991) assessed the effect of a one day, five hour intergenerational workshop on elementary and high school students' attitudes. Children and seniors participated in a variety of exercises, including discussions, and participating in structured activities such as working cooperatively to solve simple problems. Using a variety of measures, including a semantic differential, and a sentence completion task, it was found that the elementary students had higher scores, thus more positive attitudes toward the elderly, than the high school students. Girls' attitudes toward the elderly were significantly higher than boys on the sentence completion, but not on the semantic differential. Couper et al. suggest that an explanation for the success of the program was that the workshop fulfilled the necessary conditions of Amir's contact hypothesis (1969). Both groups were involved in important activities (e.g., structured cooperative self-disclosure activities) for beneficial exchange across groups, which helped to promote positive attitudes. Trent et al. (1979) found that 13 to 18 year olds' attitudes became more positive after participating in a series of six-week seminars and in-depth interviews with seniors.

A novel approach to studying attitudes of sixth through eighth grade children was carried out by Olejnik and LaRue (1981). Over a period of two months, 40 older persons (over 60 years of age) visited the school cafeteria to eat lunch. Subjects (control N = 77, experimental N = 369) responded to a Yes/No questionnaire before and after intervention. The children in the experimental group demonstrated less negative attitudes than the control group regarding the physical characteristics of older persons at the posttest. That is, children in the experimental group were less likely to agree that old people were usually slow, hard of hearing, or tired after the two month intergenerational

program. However, the results of the posttest questionnaire also revealed that the experimental group were less likely to agree that they like to be with old people or that they feel good when they are with old people. The authors suggest two possible explanations for this decrease: firstly, the subjects were not adequately prepared for the intervention; secondly, the older persons were outnumbered six to one, therefore, there was limited opportunity for interactions with children in smaller groups. Olejnik and LaRue suggest that in order for intergenerational programs to be most effective, small groups with both older persons and children should be formed, because this will allow more opportunities for contact.

Caspi (1984) investigated the attitudes toward the elderly of preschool and kindergarten children attending an established intergenerational program. Children in the intergenerational program had daily contact with elderly teacher-aides and volunteers, while a control group had no such contact. Results of the semantic differential task showed that the children with the daily contact held significantly more favorable views of the elderly than children in the control group. The children in the control group were vague or neutral in their responses, while the contact children consistently chose positive semantic ratings for the old people (e.g., happy, popular, friendly, kind and brave). The results of this study must be interpreted with caution, because there was no pretest and one cannot rule out the possibility that there may have been initial attitudinal differences between the control and senior-contact schools.

Lowenthal and Egan (1991) assessed the impact of grandparents visiting children to read stories for 15 minutes a week, and to play for one hour per week, over a period of seven months. Children in the control (N = 9) and contact (N = 53) groups were of between 15 months and six years. The reading project continued over seven months. While this study did not rate children's

feelings or attitudes, pre and post intervention questionnaires were given to seniors, parents and teachers. Qualitative measures were also included. This is one of the few studies to attempt to assess the senior volunteers' experiences, however, the seniors reported a decrease in their feelings of self-esteem and satisfaction. The authors believe that ambiguous wording of several items on the questionnaire led to the unexpected decline of feelings of self-esteem. The reports from the qualitative data indicate that the seniors were extremely enthusiastic about their interactions with the children and about their participation in the project. Teacher ratings showed significant increases in children's attitudes, especially in the area of children's self-esteem. Teachers reported that children displayed more cooperative behavior, were more interested in activities, and appeared to be more relaxed and content after the intervention. The parent ratings were also very positive, as were children's spontaneous comments about the seniors. The results of this study should be interpreted with caution as the sample size was small, and the teacher and parent ratings may not be reliable.

In a similar study, older volunteers read stories for 15 minutes a day, four times per week, for two months to six to nine-year-old children (Carstensen, Mason, & Caldwell, 1982). A new measure, the Children's Assessment of Old People scale was developed to assess children's attitudes toward the elderly. In order to determine if children could identify old and young persons, children were first shown several photographs of young and old people. Children were then asked a series of sociometric questions about these people (e.g., "Which of these people is often sick?" , "Who likes you the best?"). The pre and posttest scores for the control and experimental groups were neither overwhelmingly positive or negative, however, attitudes of children in the experimental group were significantly more positive at the posttest. Over 80% of the volunteers felt

they had personally benefitted from the program, and 60% indicated a willingness to participate in the program during the following year

Seefeldt (1987b) observed two groups of preschool children; one group visited infirm seniors in a nursing home for a year, while the other group had no contact with seniors. The results of the Children's Attitudes Toward the Elderly scale showed the children with regular contact held more negative attitudes than the children without regular contact. A possible explanation for this result is that the seniors in the nursing home were ill and infirm. Seefeldt suggests that children should have opportunities to interact with seniors who are active and healthy as well as with seniors who are infirm.

Baggett (1981) used the Children's Attitudes Toward the Elderly scale to assess the effects of an intergenerational program on Kindergarten to 3rd grade children's attitudes. In a ten week program, the children had 20 hours of visits with female senior volunteers. The results indicated no change in the children's attitudes toward the senior volunteers and the attitudes remained mostly negative. Baggett suggests that the lack of time to prepare properly all the participants may explain the results. The teachers were not informed of the senior volunteers' role, and expressed concern about the health of the senior volunteers. The seniors did not participate in any training prior to participating in this project and were not sure of their role in the classroom. Therefore, the seniors assumed a passive assistant role rather than that of an active participant with the children; this fact may have contributed to the myth that all old people are passive and infirm

The results of these studies are mixed; however, there is evidence that after participating in an intergenerational program children demonstrate positive attitudes toward the elderly. However, it is difficult to compare these studies due to wide variation in subjects, types of programs, the health of and preparation

for the participants, the variety of measures used and the weak design of many of the studies. The following section surveys the literature employing both an educational program and an intergenerational program to investigate children's attitudes toward the elderly.

The effects of both an intergenerational program and an educational curriculum on attitudes toward the elderly

A small number of studies have investigated the effects of educational curriculum units on aging in order to change attitudes toward older persons. The rationale for implementing such an educational program is that when children have positive and realistic information, their attitudes will be influenced positively (Glass & Knott, 1982; Triandis, 1971). These educational curricula have been paired with senior volunteers visiting the classes. As with the literature in the previous sections, the research methodologies used in these studies vary widely.

Rich et al. (1983) found that third graders who participated in a counselor-led guidance unit on aging had more positive views about growing old and elderly people, than children who were not exposed to the unit. Similar results were reported by Aday et al. (1991) with a small group of fourth grade children. Murphy-Russell, Die, and Walker (1986) investigated the effects of three types of workshop sessions on undergraduate students attitudes toward the elderly. In one workshop, students participated in a group discussion about their attitudes toward old people. In the second workshop, an elderly man and women were asked a series of prearranged questions by the experimenter and students also asked questions. The students in the third workshop watched an information film about aging. While students in all workshops experienced positive attitude change, the most effective session was the direct-contact with older persons.



Davis and Westbrook (1981) developed a curriculum package titled Growing Up, Growing Older for children ages 10 and 11 years. This multifaceted package contained three films and accompanying discussion materials. The structured discussions were led by trained older volunteers (the age of the volunteers is not given). The results of the pretest (an adapted version of the Children's Attitudes Toward the Elderly scale, Jantz et al., 1976) showed that the treatment and control groups did not have overly negative attitudes toward seniors. The treatment group's posttest scores did increase positively, while the control groups did not. The subjects in the treatment group reported an increase of 7.27% in talking with older persons outside of school (post educational program), while the control group reported a decrease of 1.87% in their interactions with older persons.

Seefeldt, Jantz, Galper, and Serlock (1981) developed a six-week curriculum unit for children in kindergarten through grade six. The unit was designed to increase knowledge about the elderly, decrease negative physical and behavioral stereotypes about the elderly and help children to positively assess their own aging. An elderly person was recruited to visit each class regularly. After participating in the six weeks of activities, children in the treatment groups rated older persons as happy, wonderful, healthy and rich significantly more frequently than children in the control groups. The authors conclude that the curriculum unit was effective in fostering positive attitudes toward the elderly.

Dellmann-Jenkins et al. (1986) designed a curriculum for children between the ages of three and four, which provided realistic and positive information about the aging process and older people. Frequent interactions between children and elderly volunteers were planned. The semantic differential portion of the Children's Attitudes Toward the Elderly scale (Jantz et

al. , 1976) was given to the children before the intervention program, and again after. Due to the small sample size and the exploratory nature of the study, tests of significance were not computed. The results showed that posttest scores for children in the experimental group increased in a positive direction, yet the control group scores remained the same or decreased. Therefore, children in the experimental group showed more positive attitudes in the posttest.

Dellmann-Jenkins et al. (1986) suggest that educational programs can have a positive impact on children's attitudes toward the elderly. This study also incorporated many direct contact experiences between children and seniors. These positive concrete experiences with the elderly appeared to have positively influenced children's attitudes.

A recent study by Dellmann-Jenkins et al. (1991) investigated preschool children's prosocial behaviors toward the elderly after participating in an intergenerational program over a nine-month period. The educational program and the types of activities that the children and seniors participated in together were very similar to those described in the Dellmann-Jenkins et al. (1986) study. A new instrument, the Prosocial Behavior in Young Children scale, was designed to assess the children's behaviors toward the elderly. This measure required children to respond to various scenarios depicted through the use of puppets. The stories involved cooperating with, sharing with and helping puppets (puppets represented a young child and an elderly adult). The children's responses were scored on a 5 point scale from 0 (no attempt to help, share or cooperate) to 5 (would help, share or cooperate). The measure was given to the children before and after the intervention. The Prosocial Behavior in Young Children measure is novel in that the use of puppets is appropriate for young children. The measure is game-like which is more developmentally appropriate for preschool children than traditional pencil and paper measures.

A reason for developing this new measure was to assess children's behaviors toward older persons. Dellmann-Jenkins et al. (1991) felt that many studies had been carried out investigating attitudes toward old people, yet little evidence existed concerning the effects of intergenerational programs on actual behaviors toward older persons. Upon close examination of the Prosocial Behavior in Young Children measure it can be seen that this task, in fact, measures intentions to behave, not actual behaviors toward elderly people.

Results of this study indicated that children in the intervention group were more likely to respond in a positive manner, that is, more likely to cooperate, share, and help the elderly puppet after the intervention than children in the control group. This was especially evident for the children's willingness to share with the elder puppets.

An educational program coupled with opportunities for intergenerational exchange appears to be beneficial in positively changing attitudes toward seniors. The previous literature review presented research which indicated that intergenerational programs do have a positive effect on children's attitudes. Although the research presents positive implications of intergenerational programs, it is still not clear what type of intergenerational exchange is most beneficial to positively enhance children's attitudes toward the elderly. The role of the senior volunteer in intergenerational programs is usually not provided, therefore, it is not clear what activities would be most beneficial for children and seniors. The purpose of the present study was to investigate the effects of two types of activities children and seniors participated in, on children's attitudes. Having senior volunteers facilitate cooperative games with preschool children was hypothesized to have a positive effect on children's attitudes. The following section will review the cooperative learning literature and present a rationale for its use in a preschool intergenerational environment.

### Cooperative Learning

Cooperative learning is a method of instruction which involves students working together instead of competing against each other. A variety of cooperative learning models exist and the goals of these models are: to motivate students, to enhance academic achievement, to enhance interracial relations in desegregated classes, to promote positive social development, and to help integrate children in mainstreamed classes (Kagan, 1989)

From a developmental perspective, an important assumption of cooperative learning is that through interaction children will gain new knowledge from each other (Slavin, 1987). As discussed in the theoretical background of this thesis, Piaget's theory of knowledge acquisition is based upon the need for children to be actively involved in constructing new knowledge and it is through interactions with others that social-arbitrary knowledge is acquired. Peers and adults can help a child make the bridge from what he/she already knows to higher level thinking. According to Vygotsky (1978), the zone of proximal development "is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers." (p. 86). Through cooperative activities, children can benefit and learn from the more advanced behaviors of the other group members. Conflict, or disequilibration, is important for knowledge acquisition from both a Piagetian and Vygotskian perspective, as it is through conflict that higher order knowledge is learned (Wadsworth, 1979).

The type of goal structure used, is one way to distinguish cooperative learning from other types of learning. A goal structure is a type of

interdependence that is organized by the teacher (Johnson & Johnson, 1975). Three types of goal structures are: individualistic, competitive and cooperative. In an individualistic goal structure, the student's completion of the task is in no way related to other students' completion of the task (Johnson & Johnson). In fact, there is little interaction between students as each student completes the work independently. In a competitive goal structure, a student works to complete the task at the expense of other students; that is, one student's success is negatively correlated with other students' success. In a cooperative goal structure, one student's success is positively correlated with other students' success.

Traditionally, in many early childhood settings there exists an individualistic goal structure. Teachers are concerned with fostering and promoting independence in children and consequently, often there are a limited number of activities planned during the day which require real cooperation (DeBellefeuille, 1989). Through participation in cooperative activities children can learn important prosocial skills which promote children's social competence, such as taking turns, sharing, cooperating and negotiation (Hill & Reed, 1990).

Simply because two or more children are playing together or working in a small group does not necessarily mean that the activity is a cooperative one (Hill & Reed, 1990). In order for an activity to be truly cooperative, children must coordinate their actions to achieve a common goal (Goffin, 1987). One important characteristic of cooperative learning is that positive interdependence is established between members of the group (Abrami et al. , 1993). Participants should feel that their contribution is important and necessary for the total group to succeed. Positive interdependence can be classified in three categories: outcome, means, and social. Outcome interdependence motivates

students to achieve a group goal or product. Means interdependence requires group members to depend on each other to complete the task. Social interdependence promotes feelings of group solidarity. In the present study, the cooperative activities included goal, reward, task, and resource interdependence. For young children the use of tangible external rewards (e.g., group certificates for completing/achieving a task) are often unnecessary and inappropriate. In the present study, rewards in the form of praise from the senior volunteer or teacher were given upon completion of an activity. Goal and reward interdependence are types of outcome interdependence while task and resource interdependence are types of means interdependence.

In goal interdependence, each child must contribute in order for the group to achieve its goal. When the activity is divided into different parts and each child is responsible for a particular part, task interdependence is being fostered. For example, if an activity requires children to work together to dramatize a story, goal and task interdependence are present. Each child would be given a part (task) and the group must coordinate their actions to act out the story (goal).

To achieve resource interdependence, children would have limited materials or resources and would need to share materials in order to complete the task. For example, if the children were making a group mural, the teacher would provide two glue pots for a group of four children. This would force the participants to share the resources and to be aware of the other group members' needs (Watson, Hildebrant, & Solomon, 1988). Many of the cooperative activities in the present study incorporated several types of interdependence.

A second important characteristic of cooperative learning is individual accountability. Individual accountability ensures that each group member

contributes to group's work (Abrami et al. , 1993) There are also three types of accountability: outcome, means and social In early childhood, one type of individual accountability occurs when each group member has different parts of the same puzzle and they must place their pieces for the puzzle to be completed. For young children, an appropriate method to encourage and think about accountability is having children reflect on their contribution to the group. For example, after participating in a group mural activity where pots of glued needed to be shared amongst group members, children could be asked to reflect on how well the group shared the glue Children would hold up five fingers indicating the group shared well, or one finger indicating the group did not share.

By the very nature of the cooperative strategy, it is evident that there will be an effect on the social behavior of children. There has, however, been limited research on the effects of cooperative learning on children below the second grade (Slavin, 1987).

#### Cooperative learning research in early childhood

Young children seem particularly receptive to the cooperative activities; therefore, it is an ideal time to introduce opportunities for positive socialization Orlick (1981b) Orlick (1981a) implemented an 18-week cooperative games program in two kindergarten classes Results showed that children in the cooperative games program significantly increased their sharing (as measured by a candy-sharing task) when compared to the children in the control group In a separate study, preschool children were randomly assigned to one of three groups. cooperative games, individual games or free play (Orlick, 1981b). Children were observed during recess playing in the gym and outdoors. Results revealed that children in the cooperative condition significantly increased their cooperative behaviors during recess - outside of school The fact that the

cooperative games had an effect outside of school was particularly interesting and needs further research (Orlick, 1981b). An increase in the number of cooperative play behaviors was also observed for the cooperative group during the inside-recess period, however this change was not significant. There was also an increase of noncooperative behaviors demonstrated by children in the free play group inside during recess. Orlick hypothesized that the unexpected increase in noncooperative play behaviors could be due to the absence of positive role models for children. The results of this study should be interpreted with caution as the sample size was small therefore, limiting generalizability.

Other researchers, such as, DeBellefeuille (1989) found that kindergarten children displayed more prosocial interactions after a six-week cooperatively structured program than did children in a traditionally structured program. Pepitone (1980) suggests that in cooperative situations there tends to be more frequent interactions among participants than in competitive situations. Cooper (1980) investigated three to five-year-old children's collaborative problem solving, and found that children as young as three years were capable of solving problems collaboratively.

The Child Development Project in the United States was developed to enhance children's social development (Solomon, Watson, Schaps, Battistich, & Solomon, 1990). This longitudinal project involved implementing a comprehensive program stressing interpersonal skills in three elementary schools and one preschool over a period of five years. Cooperative activities were a daily part of the school curriculum. A variety of measures were used to collect the data. Systematic observations of interpersonal interactions demonstrated that Child Development Project students consistently displayed more positive behaviors than students in comparison classes (Solomon et al., 1990). Strong program effects were found for two social problem-solving tasks,



both the treatment group scores and the comparison scores increased with age, yet the treatment children showed a greater increase (Solomon et al. , 1990). This data provides support for the positive effects of the Child Development Project with its strong cooperative element on children's prosocial development.

Hill and Reed (1990) suggest that adult-initiated cooperative games are an important way for adults to foster children's social skills. Through participation in cooperative activities, children practise such skills as taking turns, sharing, helping and communicating. Children who are less socially competent will have the opportunity to interact with more socially competent peers in a nonthreatening atmosphere.

While a variety of cooperative learning strategies exist, they are not necessarily appropriate for use with young children. The following section will examine characteristics of appropriate cooperative activities for young children.

#### Cooperative activities for young children and senior volunteers

Many cooperative learning strategies have been developed for older children in elementary and high school (Watson et al. , 1988), however, a series of cooperative activities for preschool children were developed for use in the present study. These particular activities were designed to meet the developmental needs of preschool children based upon DeBellefeuille's (1989) list of characteristics of cooperative activities for young children. First, the cooperative activities need to be developmentally appropriate for young children, that is, the activities should meet the characteristics and needs of young children. Second, children should not need to have a knowledge of reading or writing in order to participate fully in the tasks. Third, the activities should be short and should not have complicated rules to accommodate the young child's short attention span (DeBellefeuille, 1989). Fourth, as children are inherently curious, no tangible rewards should be given to encourage

participation or competition between groups. Fifth, children should work in pairs to accommodate young children's limited social skills. While cooperative activities can be used to enhance learning in all areas of the early childhood environment, the majority of activities used in the present study were music and movement games. This allowed for both children and the senior volunteers to be active and involved

#### The present study

Both senior volunteers and early childhood educators initiated and facilitated the cooperative activities with the children in the present study. Through these concrete experiences, children in the senior contact groups had the opportunity to observe and interact with healthy, outgoing seniors. The seniors acted as positive role models for children. It was hypothesized that these games would help dispel the myth that all seniors are sad, unfriendly, sick, slow, bad, mean and ugly.

Using cooperative learning techniques to increase positive interactions between young children and senior volunteers is a new area of research. Couper et al. (1991) investigated the effects of a one-day intergenerational workshop on elementary and high school students' attitudes toward the elderly. A variety of activities including cooperative problem-solving tasks were used to encourage interaction between students and seniors. It was found that elementary students showed more positive attitudes toward seniors after the workshop than the control group. Using cooperative techniques, therefore, may also be appropriate to promote positive attitudes of preschoolers as well. One of the purposes of the present study was to investigate the effects of cooperative learning activities on young children's attitudes toward senior volunteers.

The use of cooperative activities may be appropriate when involving senior volunteers in a child care setting because the cooperative activities

themselves force the participants to be active, involved and to interact with each other. As discussed in the introduction, senior volunteers in intergenerational programs often did not seem to be aware of the role they should play in interacting with the children. Consequently, the interactions between seniors and children were either nonexistent or were not very positive. Through implementing and facilitating these cooperative activities, the senior volunteers would have a clearer idea about how they should interact with the children in the program.

The purpose of the present study was to examine the effects of two types of intergenerational programs on preschool children's attitudes toward the elderly. Six female senior volunteers were trained to implement a series of cooperative activities or to visit children during freeplay sessions. Measures used to assess children's attitudes toward the elderly included: an adapted semantic differential Children's Attitudes Toward the Elderly scale (Jantz et al. , 1976), a sociometric measure, the Prosocial Behavior in Young Children measure (Dellmann-Jenkins et al. , 1991) and a sticker sharing task (DeBellefeuille, 1989). This study improved on past research in that a quasi experimental pretest-posttest design was used. This allowed for comparisons between implementer (senior volunteer or teacher) and structure (visit-only or cooperative activities) conditions, thus potentially leading to practical implications for implementing intergenerational programs.

There were four conditions: senior volunteer cooperative intergenerational program; senior volunteer visit-only intergenerational program; teacher led cooperative games program and; a control group with no type of intervention. The children's attitudes were assessed one week prior to the start of the programs and one week after the last week of the programs.

The following hypotheses were made:

1. Children in the senior visit-only and senior cooperative conditions were expected to show more positive attitudes toward the elderly than children in the teacher cooperative or the control conditions.

2. Children in the senior cooperative condition were expected to show the most positive attitudes toward the elderly compared to children in the senior visit-only, the teacher cooperative, or the control condition.

## METHOD

### Subjects

The sample consisted of 72 preschool children attending six child care centers (a total of eight separate classes) in Westmount, Quebec. The mean age for the total sample was 43 months (range from 36 months - 52 months). The number of males = 33 and females = 39. See Table 1 for the distribution per condition. The first language for the majority of children was English. Written parental permission was required before children were permitted to participate in the pretest and posttest (See Appendix A).

Six female seniors interested in working with young children were recruited to participate in this project. A senior was defined as a person over the age of 65. Potential volunteers were recruited through word of mouth, advertisements on public radio and in local community papers. The senior volunteers were kept blind as to the specific hypotheses of the study. Initially six seniors participated in the study, but two seniors left the study for personal reasons (one senior visited the children on four of the twenty days, and a second senior did not visit the children at all).

### Procedure

An information meeting was held in July, 1992 for six interested senior volunteers. At this meeting a short video, Share it with the children (Generations Together, 1990), was shown. This award winning video describes intergenerational exchanges in three child care centres. The current project was briefly described to the seniors followed by a question and answer session. At this meeting, four seniors decided they would participate in the project. Two other seniors were recruited several weeks later.

Prior to the implementation of the study, the senior volunteers participated in a training program to prepare them for their visits with the

Table 1  
Sample size, mean ages, gender and treatment implementer for each condition

Variable	<u>Senior</u>		<u>Teacher</u>	
	Freeplay	Cooperative	Freeplay	Cooperative
Sample Size	21	18	17	16
Mean Age (in mths)	43.0	40.8	44.5	42.6
Gender				
Males	10	10	6	7
Females	11	8	11	9
Implementer	Senior A & B a Senior E & F	Senior C & D b	Teacher A Teacher B	Teacher C Teacher D

Note. a Senior B only visited the children on four of an expected twenty visits.  
 b Senior D participated in the training sessions but did not visit the children.

children. The training program was designed to address the following: the general purpose of the study; the role of the seniors with the children; developmentally appropriate practice and child development. All of the sessions were facilitated by the researcher. Through films, discussions and videotapes of children during freeplay, seniors learnt about appropriate expectations for children (i.e., age-appropriate behavior), methods of guiding children's behavior, and promoting positive self-esteem in young children

One senior conducted a program of cooperative activities for the two senior cooperative classes and two seniors were assigned to each of the two senior visit-only conditions. The seniors were assigned to conditions based on time availability and proximity to the child care centres.

The senior volunteer who implemented the cooperative activity portion of the study participated in one separate training session in which cooperative learning was introduced and the specific activities for each day were reviewed (See appendix B for a sample of the activities). In order not to overwhelm the senior volunteer in the cooperative group, the activities were distributed in two-week sets. All necessary materials needed to play the cooperative games were provided.

Two educators were also trained to implement the cooperative activities with the children. The cooperative training session was similar to that presented to the senior volunteers. The educators were requested to implement the cooperative activities in the order given (to match the senior volunteer's implementation). The activities were also distributed in two-week sets. As with the senior volunteers, all necessary materials needed to play the cooperative games were supplied.

The cooperative activities were designed to meet the developmental needs of preschool children (as discussed in a previous section of this thesis).

The majority of activities used in the present study were music and movement games. This allowed for both children and senior volunteers to be active and involved.

The seniors visited the children twice a week for nine weeks beginning the week of October 5, 1992 and ending the week of November 30, 1992. One week before the regular twice-weekly visits of the senior volunteers began, the educator of each class was asked to prepare the children for the visits. Each educator was given photographs of the senior volunteers to use during circle time for an introduction activity. These photographs were then posted in a prominent location in the classroom.

The researcher accompanied the seniors on the first visit to the children's classes. However, one pair of seniors unexpectedly started a day earlier than planned so the researcher did not accompany this pair. Each educator took a few minutes to introduce the children to the senior volunteers and to give the seniors a brief tour of the centre.

Seniors met with the researcher after their fourth visit to the child care centres. The purpose of this meeting was to provide the senior volunteers with an opportunity to share their experiences with the group and the researcher. This meeting was also used to refresh the volunteers knowledge about the material covered in the training sessions. The cooperative activities for the upcoming two weeks were distributed at this meeting to the appropriate senior volunteer. Similar meetings were held regularly throughout the nine-week project.

The senior volunteers were asked to keep a short journal of their thoughts and feelings about this experience. This daily journal provided qualitative data about the volunteers' experiences.

At the conclusion of the nine-week implementation, a luncheon meeting



was held for the senior volunteers. At this time, the researcher thanked the seniors for their valuable contribution in the project. As a token of appreciation a certificate of participation (See Appendix C) and a small plant was given to each volunteer.

Shortly before pretesting was to begin, two teacher cooperative classes decided not to participate in the research. Due to this unanticipated circumstance, it took several days to locate two new classes and have the educators trained to participate. Therefore, the teacher cooperative groups only had eight weeks of intervention (beginning the week of October 12, 1992 until the week of November 30, 1992).

### Intervention

Each class was randomly assigned to one of four conditions:

1. Control group - No senior visits or cooperative activities.
2. Cooperative activities with teacher - The regular early childhood educator implemented a twenty minute session of cooperative games, twice a week, for eight weeks.
3. Unstructured visits by seniors - Pairs of seniors visited the classroom during freeplay and interacted with the children, twice a week, for nine weeks.
4. Cooperative activities with seniors - A senior volunteer implemented a session of cooperative games, twice a week, for nine weeks.

In each senior contact class, the seniors visited for a period of thirty minutes. In the cooperative condition most of the time was spent playing cooperative games (e.g., the senior volunteer interacted with the children for 5 minutes during the children's tidy-up time and then played cooperative games with the whole group for twenty to twenty-five minutes.). In the unstructured visit condition, the senior volunteers interacted with the children for thirty minutes. The seniors in this condition were instructed to engage in a variety of activities

depending upon the children's interests on that particular day.

### Measures

The adapted Children's Attitudes Toward the Elderly scale (Jantz et al. , 1976). The semantic differential subtest of the Children's Attitudes Toward the Elderly scale was adapted for use in this study. This scale was relatively easy to administer and the numerical coding facilitated data analysis (Jantz et al. , 1976). This measure required the subject to choose between pairs of adjectives rated on a bipolar scale (negative/positive). In the present study, to accommodate for children's limited attention span and developmental level, the semantic differential pairs were accompanied by appropriate pictures of young and older people.

Six black and white line drawings were used for the semantic differential. Three of the drawings were of young women (20 - 30 years) and three of the drawings were of older women (over 65 years) (See Appendix D for the pictures). The drawings showed the head and shoulders of the women, with a neutral expression.

The adjective pairs used in a semantic differential measure were representative of the attitudes of the domain of interest, and were polar opposites (Maguire, 1973). As this measure was intended for use with young children, it was important that the pairs selected be developmentally appropriate. The words needed to be simple and clear in order that preschool children would be able to understand them. A literature search of studies investigating children's attitudes toward the elderly provided a large sample of adjective pairs (See Appendix E ). The following were selected as they have been used most commonly and in the pilot test they proved to be meaningful for young children: happy/sad; old/young; friendly/unfriendly; sick/healthy; fast/slow; good/bad; kind/mean; pretty/ugly.

Using the original semantic differential scale, moderate test-retest reliability for the Children's Attitudes Toward the Elderly scale has been established at  $r = .81$  (Seefeldt et al. , 1987b ) and,  $r = .68$  (Dellmann-Jenkins et al. , 1986). Caspi (1984) reported a test-retest reliability of  $r = .72$  with five of the same semantic differential pairs used in the original scale.

The sociometric measure . The second measure used the same pictures as the Children's Attitudes Toward the Elderly scale. In this measure children choose from a series of drawings the person with whom they would like to partake in a variety of activities. This technique has been used successfully by Burke (1982), Fillmer (1984, 1982) and Miller et al. (1984). In these studies, children were presented with pictures of young and old persons. Children were then asked to choose pictures according to the question asked. Questions such as; Which people would you like to stay with you? Which people would you like to be your friend? and Which people would you ask for help if you were lost? tap children's intentions to behave.

As with selecting pairs of adjectives for the semantic differential portion of the Children's Attitudes Toward the Elderly scale, the phrases used in the sociometric task were selected with care. Phrases that were simple and direct were used in order that preschool children were able to understand clearly the concepts. (See Appendix F for a list of the sociometric questions used in previous studies). During pilot testing the children were able to understand the following five questions: Which people would you like to play with? If you were lost in a store, which people would you ask for help? Which people have a lot of free time? Which people would you like to help your teacher? Which people would you like to be your friend? These five questions were used in the present study. This measure has been used with success in past research to investigate children's attitudes toward the elderly (e.g., Burke, 1982). To date,

measures of reliability or validity have not been conducted.

Prosocial Behavior in Young Children (Dellmann-Jenkins et al. , 1991).

The Prosocial Behavior in Young Children measure assesses the children's potential behaviors toward the elderly. This measure requires children to respond to various scenarios depicted through the use of two puppets, which represent a young child and an elderly adult. There were two puppets representing young children, one female and one male, with the one of the same gender as the subject used for each child. The puppets used in this study were commercially made.

A reason for developing this new measure was to assess children's behavior toward older persons. Dellmann-Jenkins et al. (1991) state that many studies have investigated attitudes toward old people, yet little evidence existed concerning the effects of intergenerational programs on behaviors toward older persons. Upon close examination of the Prosocial Behavior in Young Children measure it can be seen that this measure does, in fact, measure the intent to behave and not the child's actual behavior. The Prosocial Behavior in Young Children measure is appropriate for young children in that the use of puppets is novel and gamelike, which is more developmentally appropriate for this age group than group-administered tests or paper and pencil measures.

As this is a relatively new measure, reliability and validity have yet to be established. The authors state that the measure was conceptualized after reviewing the existing literature on attitudes and prosocial behavior, therefore, providing some assurance of face validity (Lambert, Dellmann-Jenkins, & Fruit, 1990).

The sticker sharing task. This task, adapted from Orlick's (1981a) candy-sharing task, has been used successfully with preschool children (DeBellefeuille, 1989). The sticker sharing task was designed to provide data

on the actual sharing behavior of young children. In previous studies, children were given five stickers and told that there were not enough stickers for all the children in another class. Children were told that if they would like to share any of their stickers to put them in a designated box. The number of stickers each child shared, or did not share was the score. In the present study a similar technique was used, however, sharing with an older person, not children in the other class, was the target group for potential sharing.

#### Administration of measures

Several months prior to beginning of the study, the following measures were pilot-tested with a group of eight preschool children: the adapted semantic differential section of the Children's Attitudes Toward the Elderly scale (Jantz et al. , 1976), the sociometric questions (adapted from Burke, 1981; Fillmer, 1982, 1984; Miller et al. , 1984), the Prosocial Behavior Of Young Children measure (Dellmann-Jenkins et al. , 1991) and the sticker sharing task (DeBellefeuille, 1989). During the pilot-test it was found that the semantic differential needed to be simplified for preschool children.

In the original Children's Attitudes Toward the Elderly scale (Jantz et al. , 1976), children were shown a picture and asked to choose if the person was happy/sad, good/bad and so on. When a response was given, the child was then asked if the person is a little bit \_\_\_ or very \_\_\_ (e.g., if a child gave the response 'happy', he/she was then asked if the person is 'a little bit happy' or 'very happy'). Although the Children's Attitudes Toward the Elderly scale has been used with preschool children in previous studies, it became evident during the pilot test that preschool children found the last portion of the task too difficult and quickly became disinterested in the task. Therefore, it was decided to adapt the Children's Attitudes Toward the Elderly scale to ask the children to only complete the first portion of the original task, that is, to choose between two

opposites (e.g., happy/sad).

Before the treatment began the children were individually pretested. Individual children were asked to accompany the researcher to a separate area of the classroom, or into the hallway, to participate in four tasks: the adapted Children's Attitudes Toward the Elderly scale (Jantz et al. , 1976), the sociometric task, the Prosocial Behavior in Young Children measure (Dellmann-Jenkins et al. , 1991) and the sticker sharing task (DeBellefeuille, 1989). These tasks took approximately 10-15 minutes to complete. All responses were audiotaped. The posttest was given one week after the last senior volunteer scheduled visit.

Rapport with each child was established through general conversation (e.g., "How are you today? I have a game for you to play."). The first measure administered was the adapted semantic differential task of the Children's Attitudes Toward the Elderly scale. To familiarize each child with the task, the following sample task was given. A picture of a preschool child was shown, the child was asked if the child in the picture was happy or sad, the child responded verbally to each question. Responses were recorded on a scoring sheet.

After the sample task, the children were presented with six randomly ordered pictures; three of senior females and three of females in their 20's. They were shown a picture and asked if the person was: happy/sad; old/young; friendly/unfriendly; sick/healthy; fast/slow; bad/good; kind/mean; pretty/ugly. Each child saw the pictures one at a time and in the same order. Each picture was turned face down after the child responded. Positive responses were given a score of +1 and negative responses were given a score of 0. Therefore, each subject had a total score for each adjective pair for the old person pictures and a total score for each adjective pair for the young person pictures.

After the semantic differential questions, the six pictures (the same pictures as used in the semantic differential) were placed in two rows in a random order on the table. The children were asked to point to pictures of who fit the description of the following questions:

1. Which people would you like to play with?
2. If you were lost in a store, which people would you ask for help?
3. Which people have a lot of free time?
4. Which people would you like to help your teacher?
5. Which people would you like to be your friend?

There were no limits as to the number of pictures that could be selected. If a picture was selected a score of +1 was given, if a picture was not selected a score of 0 was given. Each subject had a total score for each question for old people and a total score for each question for young people.

The adapted Prosocial Behavior of Young Children measure (Dellmann-Jenkins et al. , 1991) was then administered. Using puppets and the appropriate props, three short stories were told (See Appendix G for all the stories). Three scenarios (cooperating, helping and sharing) were used in the pretest and three different scenarios in the posttest. To avoid a testing effect the stories were counterbalanced, such that half the children in each condition were told stories 1, 2, and 3 in the pretest, and stories 4, 5, and 6 in the posttest. The remaining children in each condition were told stories 4, 5, and 6 in the pretest and stories 1, 2, and 3 in the posttest.

The following procedure was followed for each story. The researcher put on the two puppets, and identified one as the child - the same sex as the subject, the other as an older lady. "Now, I will tell you some stories about children and older people." One example of the story was: "Once upon a time there was a little boy/girl (same sex as the child) who was in the grocery store

shopping with his/her mommy. There was an older lady shopping at the same time. Just as they were walking by the older lady, she dropped her purse and all the money spilled out." The child was then asked: "If you were this boy/girl, (indicating the young puppet) what would you do?". After the child had responded the second and third stories were told.

Responses were audiotaped and then scored as: a) willing to cooperate (score=5) or b) not willing to cooperate (score=0). The three scores were summed so each child received a total score for the Prosocial Behavior in Young Children measure.

The sticker sharing measure (DeBellefeuille, 1989) was the final task for the children. Each child was given five stickers. Then, each child was told "I (the researcher) am beginning to run out of stickers." The researcher pointed to a black and white photograph of an older woman and said, "I don't have many stickers left, and this lady really likes stickers. If you would like to share some of your stickers with her, you could put them in this box. I will be seeing her this afternoon and I will give them to her then.". At this point, the researcher began to tidy up the area, to allow the child some privacy to make a decision. After the child decided what to do, the child was thanked for participating in the games and was then escorted back to the classroom.

The number of stickers the child placed in the box was the child's sticker sharing score. Children could receive a score from 0 - no stickers placed in the box to 5 - all five stickers placed in the box. In order to maintain adequate levels of inter-rater reliability, a second individual co-coded the four individual measures to one third of the subjects.

Originally, live observations were to be conducted to investigate the amount of contact children exhibit toward seniors; however, due to scheduling difficulties and a short time frame available for testing, these observations were



dropped from the study. In addition, parents were asked to complete a questionnaire concerning their child's contact with persons over the age of 65 years. Although the researcher and the teachers reminded the parents on many occasions to please complete and return the questionnaires, few were returned. The response rate for these questionnaires was very low (less than 40%), consequently this data was not analyzed.

### Design

A 2 x 2 factorial design was used in this study. The independent variables were structure (cooperative activities or unstructured visits) and implementer (senior or teacher). The dependent variables were the children's attitudes toward the seniors as measured by: a) the adapted Children's Attitudes Toward the Elderly scale (Jantz et al. , 1976), b) the sociometric task, c) the Prosocial Behavior in Young Children measure (Dellmann-Jenkins et al. , 1991) and, d) a sticker sharing task (DeBellefeuille, 1989).

		Implementer	
		Senior	Teacher
S t r u c t u r e	Unstructured	Senior visit only	Control
	Cooperative	Senior cooperative	Teacher cooperative

## RESULTS

This section begins with descriptive statistics for the whole sample. The results pertaining to the hypotheses are presented in the following order: a) the semantic differential portion of the adapted Children's Attitudes Toward the Elderly scale (Jantz et al. , 1976), b) the sociometric task, c) the Prosocial Behavior in Young Children measure (Dellmann-Jenkins et al. , 1991), and d) the sticker sharing task (DeBellefeuille, 1989). Pretest and posttest means and standard deviations will be presented for each dependent variable (See Tables 4 and 5). Finally, the qualitative data are presented.

Overall, the results of the adapted Children's Attitudes Toward the Elderly scale, the sociometric task, the Prosocial Behavior in Young Children measure and the sticker sharing task provided support for the hypothesis that children in the senior contact conditions would demonstrate more positive attitudes toward the elderly than children in noncontact conditions. Partial support was found for the hypothesis that children in the senior cooperative condition would display the most positive attitudes toward the elderly. The anecdotal reports from the senior volunteers indicated that the seniors were overwhelmingly positive about their involvement in the intergenerational program.

### Pretest results for the whole sample

The adapted semantic differential task of the Children's Attitudes Toward the Elderly scale (Jantz et al. , 1976). On the pretest, children were able to distinguish between the concepts of old and young. Over half of the children were able to identify correctly two or more of the young pictures as being young (63.8%). Similarly, children could identify two or more of the old pictures as being old (56.8%).

The percentages of selections for young and old pictures for the total sample are summarized in Table 2. The score for the semantic differential

Table 2

Percentages of young and old pictures selected for each semantic differential pair for the whole sample on the pretest

Variable	Number of Young Pictures Selected				Number of Old Pictures Selected			
	0	1	2	3	0	1	2	3
Happy	4.20	25.0	13.9	56.9	8.30	12.5	27.8	51.4
Good	1.03	19.1	29.4	41.2	32.4	36.8	20.6	10.2
Friendly	24.6	18.5	20.0	36.9	29.2	33.8	18.5	18.5
Kind	7.40	20.6	33.8	38.2	27.9	35.3	22.1	14.7
Healthy	13.2	17.6	26.5	42.5	44.2	20.6	17.6	17.6
Fast	7.20	26.1	29.0	37.7	33.3	29.0	23.2	14.5
Pretty	8.70	26.1	24.6	40.6	52.2	20.3	15.9	11.6

Note . A score of 0 means that no pictures were selected. A score of 1 means that 1 picture was selected. A score of 2 means that two pictures were selected and a score of three means that all 3 pictures were selected. The total sum for each adjective for young pictures equals 100% and the total sum for old pictures equals 100%.

equals the number of pictures selected for young or old on a particular characteristic. For example, a score of 3 means that all three pictures were selected as possessing a positive characteristic (e.g., happy, good), and a score of 0 means that none of the pictures were selected. Therefore, a score of 2 or more would indicate positive perceptions for either young or old on that characteristic.

Overall, children identified both young and old pictures as being happy, 70.8% identifying 2 or 3 young women as such and 79.2% identifying 2 or 3 old women as happy. This was the only overwhelming positive attribute given to both young and old persons. As can be seen in Table 2, young people in the pretest were seen as good (70.6%), friendly (56.9%), kind (72.0%), healthy (69%), fast (66.7%) and pretty (65.2%).

The older persons were viewed in a much more negative light on the pretest; good (30.85%), friendly (36.0%), kind (36.7%), healthy (34.2%), fast (37.7%) and pretty (27.5%).

The sociometric measure. The percentage of young and old persons selected for each sociometric question for the total sample is summarized in Table 3. The scoring for the sociometric question was the same for the semantic differential adjective pairs. The pretest results revealed that the percentage of young persons selected 2 or 3 times for each question was high; "Who would you like to play with?" (60.6%), "If you were lost in a store, who would you ask for help?" (53.5%), "Who would you like to help your teacher?" (65.2%), and "Who would like to be your friend?" (60.0%).

It was also evident that the pretest percentages of old person pictures that were selected was low for most sociometric questions; "Who would you like to play with?" (19.8%), "If you were lost in a store, who would you ask for help?" (9.8%), "Who has a lot of free time?" (45.7%), "Who would you like to help your

Table 3

Percentages of young and old pictures selected for each sociometric question for the whole sample on the pretest

Variable	Number of Young Pictures Selected				Number of Old Pictures Selected			
	0	1	2	3	0	1	2	3
Play with	11.2	28.2	29.6	31.0	66.1	14.1	8.50	11.3
Lost	19.7	26.8	32.4	21.1	76.1	14.1	2.80	7.00
Free time	57.2	21.4	11.4	10.0	32.9	21.4	18.6	27.1
Help teacher	13.1	21.7	40.6	24.6	66.7	13.1	7.20	13.0
Be a friend	18.6	21.4	34.3	25.7	70.0	12.8	4.30	12.9

Note . A score of 0 means that no pictures were selected. A score of 1 means that 1 picture was selected. A score of 2 means that two pictures were selected and a score of three means that all 3 pictures were selected. The total sum for each adjective for young pictures equals 100% and the total sum for old pictures equals 100%.

teacher?" (20.2%), and "Who would like to be your friend?" (17.1%).

Only the question "Who has a lot of free time?" resulted in a higher percentage of choices for the old persons (45.7%) than for the young pictures (21.4%).

The Prosocial Behavior in Young Children measure (Dellmann-Jenkins et al. , 1991) . The scores for each of the three story scenarios were added for a total Prosocial Behavior in Young Children score. Just over half (51.4%) of the children in the pretest offered to share, help, and cooperate with the elderly puppet.

The sticker sharing task (DeBellefeuille, 1989). In the total sample of 72, very few children offered to share any stickers in the pretest . Only five children (6.9%) shared one sticker in the pretest.

#### Attitudes Toward the Elderly

To determine if there were initial between-condition differences, oneway analyses of variance were computed on the pretest scores with class as the independent variable (See Appendix H for complete pretest ANOVA summary tables). When no significant differences were found, 2 (implementer) X 2 (structure) analyses of variance were computed on the posttest scores. When initial significant differences at the  $p < .05$  were found using the oneway analyses, analyses of covariance were conducted using the corresponding pretest score as the covariate.

In order to analyze the data, the raw scores for both the Children's Attitudes Toward the Elderly scale and the sociometric task were transformed . into difference scores which represent the total score for old people subtracted from the total score for young people for each item for each subject . This data transformation allowed for analyses to determine if children selected a different ratio of pictures older to younger people in the posttest than in the pretest.

Difference score means and standard deviations are presented for each item (See Table 4 and 5). A positive score indicates that more young pictures were chosen than old pictures, while a negative score indicates the opposite. Therefore, a **decrease** in scores from pretest to posttest indicates more positive attitudes towards the elderly.

The adapted semantic differential task of the Children's Attitudes Toward the Elderly scale (Jantz et al. , 1976) . To investigate hypothesis #1 that children in the senior contact conditions would have more positive attitudes toward the elderly on the posttest than the noncontact conditions, a 2 (implementer) X 2 (structure) analysis of variance was computed for each semantic differential pair. See Appendix I for complete ANOVA summary tables. See Table 4 for difference score means and standard deviations for each condition. As between-condition differences were found on the pretest for friendly/unfriendly and sick/healthy, analyses of covariance on the post-test were computed with the corresponding pretest scores as the covariate for these items.

A main effect for implementer,  $F(1, 60) = 5.159, p < .05$ , was found for the semantic differential pair friendly/unfriendly, (with the pretest score as a covariate) . This finding supports hypothesis #1 that children in senior contact conditions would have more positive attitudes towards seniors than those in the noncontact conditions.

Again, using a pretest score as a covariate, the result for the semantic differential pair sick/healthy indicated a significant main effect for implementer  $F(1, 63) = 6.842, p < .05$ . This finding does not support hypothesis #1 as children in the senior contact groups decreased their perceptions of seniors as being healthy individuals.

A structure by implementer interaction was found for the fast/slow

Table 4  
Pre/post means, standard deviations and difference scores for semantic differential adjectives by condition

Variable	<u>Senior Freeplay</u>			<u>Senior Cooperative</u>		
	Young mean (SD) mean (SD)	Old mean (SD) mean (SD)	Difference mean (SD) mean (SD)	Young mean (SD) mean (SD)	Old mean (SD) mean (SD)	Difference mean (SD) mean (SD)
Happy	2.38 (1.07) 2.38 (1.02)	2.00 (1.22) 2.23 (0.99)	0.38 (1.07) 0.15 (1.01)	2.50 (0.92) 2.39 (0.91)	2.39 (0.97) 2.56 (0.78)	0.11 (0.47) -.17 (0.78)
Good	2.05 (1.02) 2.48 (0.67)	0.95 (0.92) 1.67 (1.06)	1.10 (1.30) 0.80 (1.28)	2.18 (0.80) 2.12 (1.05)	1.35 (1.05) 1.82 (1.07)	0.83 (1.28) 0.30 (1.21)
Friendly	2.20 (1.05) 2.30 (0.86)	1.50 (1.23) 1.90 (0.85)	0.70 (1.21) 0.40 (0.59) *	1.75 (1.23) 2.25 (0.77)	1.00 (1.03) 2.19 (0.98)	0.75 (1.61) 0.06 (1.01) *
Kind	1.86 (0.91) 2.14 (0.96)	1.05 (0.92) 1.57 (0.92)	0.81 (1.32) 0.57 (1.28)	2.35 (0.86) 2.29 (1.04)	1.41 (1.12) 1.53 (1.00)	0.94 (1.39) 0.76 (1.14)
Healthy	1.90 (1.22) 2.29 (0.95)	0.95 (1.20) 0.76 (0.99)	0.95 (1.71) 1.53 (1.40) *	2.18 (0.95) 2.06 (1.19)	1.64 (0.99) 1.41 (1.22)	0.54 (1.37) 0.65 (1.53) *



Fast	2.05 (1.02)	1.33 (1.11)	0.72 (1.73)	2.18 (0.80)	0.88 (0.99)	1.30 (1.26)
	2.14 (1.01)	1.67 (1.15)	0.47 (1.63) *	2.06 (0.96)	1.65 (1.11)	0.41 (1.37) *
Pretty	2.14 (0.91)	0.76 (0.99)	1.38 (1.46)	2.18 (0.88)	0.88 (1.11)	1.30 (1.35)
	2.14 (0.85)	1.29 (0.90)	0.85 (1.15)	2.18 (0.88)	1.65 (1.27)	0.53 (1.50)

Variable	<u>Teacher Freeplay</u>			<u>Teacher Cooperative</u>		
	Young	Old	Difference	Young	Old	Difference
	mean (SD)	mean (SD)	mean (SD)	mean (SD)	mean (SD)	mean (SD)
Happy	2.12 (0.85)	2.18 (0.88)	-.05 (0.82)	1.88 (0.95)	2.38 (0.61)	-.50 (0.89)
	2.00 (1.06)	2.12 (0.85)	-.12 (0.99)	2.00 (1.03)	2.25 (1.00)	-.25 (0.77)
Good	2.29 (0.99)	1.00 (1.09)	1.29 (1.26)	1.56 (1.15)	1.06 (0.85)	0.50 (1.15)
	2.00 (0.96)	0.93 (0.61)	1.07 (1.32)	1.88 (1.02)	1.38 (0.61)	0.50 (0.96)
Friendly	2.08 (1.03)	1.46 (1.12)	0.62 (1.19)	0.69 (0.94)	1.06 (0.85)	-.37 (0.95)
	2.15 (1.14)	0.77 (1.09)	1.38 (1.19) *	1.19 (0.91)	0.94 (0.99)	0.25 (1.29) *
Kind	2.07 (0.91)	1.29 (1.13)	0.78 (1.47)	1.88 (1.08)	1.25 (1.00)	0.63 (1.25)
	1.79 (0.69)	1.14 (0.77)	0.65 (0.92)	1.81 (1.16)	1.56 (0.81)	0.25 (1.29)

Healthy	2.07 (0.99)	0.35 (0.84)	1.72 (1.20)	1.18 (1.10)	1.31 (1.19)	0.50 (1.82)
	1.43 (1.01)	0.71 (0.82)	0.72 (1.32) *	2.19 (0.65)	1.63 (0.95)	0.56 (1.41) *
Fast	2.27 (0.96)	1.00 (1.19)	1.27 (1.33)	1.38 (0.88)	1.50 (0.89)	-.13 (1.20)
	2.13 (1.06)	0.60 (0.73)	1.53 (1.45) *	1.38 (1.08)	1.44 (0.81)	-.06 (1.56) *
Pretty	1.93 (1.16)	0.80 (1.08)	1.13 (1.35)	1.56 (1.09)	1.06 (1.18)	0.50 (1.75)
	1.87 (1.12)	0.87 (1.18)	1.00 (1.46)	2.19 (0.65)	1.00 (0.96)	1.19 (1.16)

\* p < .05

semantic differential pair  $E(1, 65) = 4.313, p < .05$  (See Figure 1) On the posttest, children in the control condition selected seniors as being slower significantly more often than children in the other conditions. This finding provides partial support for hypothesis #1 as the children in the senior contact groups did not display negative attitudes toward the elderly.

A main effect for structure,  $E(1, 60) = 5.168, p < .05$ , was found for the semantic differential pair friendly/unfriendly, (with the pretest score as a covariate). Hypothesis #2 was supported in that children in the senior cooperative conditions would have more positive attitudes toward the elderly than children in the other conditions.

The analysis of variance for the remaining semantic differential pairs: happy/sad; bad/good; kind/mean; pretty/ugly did not reveal significant results. Although significance was not found for four of the semantic differential adjectives, a trend indicated that posttest children in the senior contact groups held more positive attitudes toward seniors than children in the nonsenior contact conditions. To summarize, the results of the semantic differential task revealed total or partial support for hypothesis #1 on two adjective pairs and total support for hypothesis #2 on one adjective pair. One result did not support hypothesis # 1 or # 2.

The sociometric measure. In general, the results of the sociometric task showed support for hypothesis # 1 that children in the senior contact conditions would have more positive attitudes than children in the nonsenior contact conditions. Table 5 presents the total mean scores for young and old persons and the difference scores for each of the five questions. As with the semantic differential scores a **decrease** in scores from pretest to posttest indicates more positive attitudes towards the elderly. Oneway analyses of variance were computed to determine if there were significant differences between classes on

Figure 1

Interaction of structure X implementer for the semantic differential

adjective fast/slow

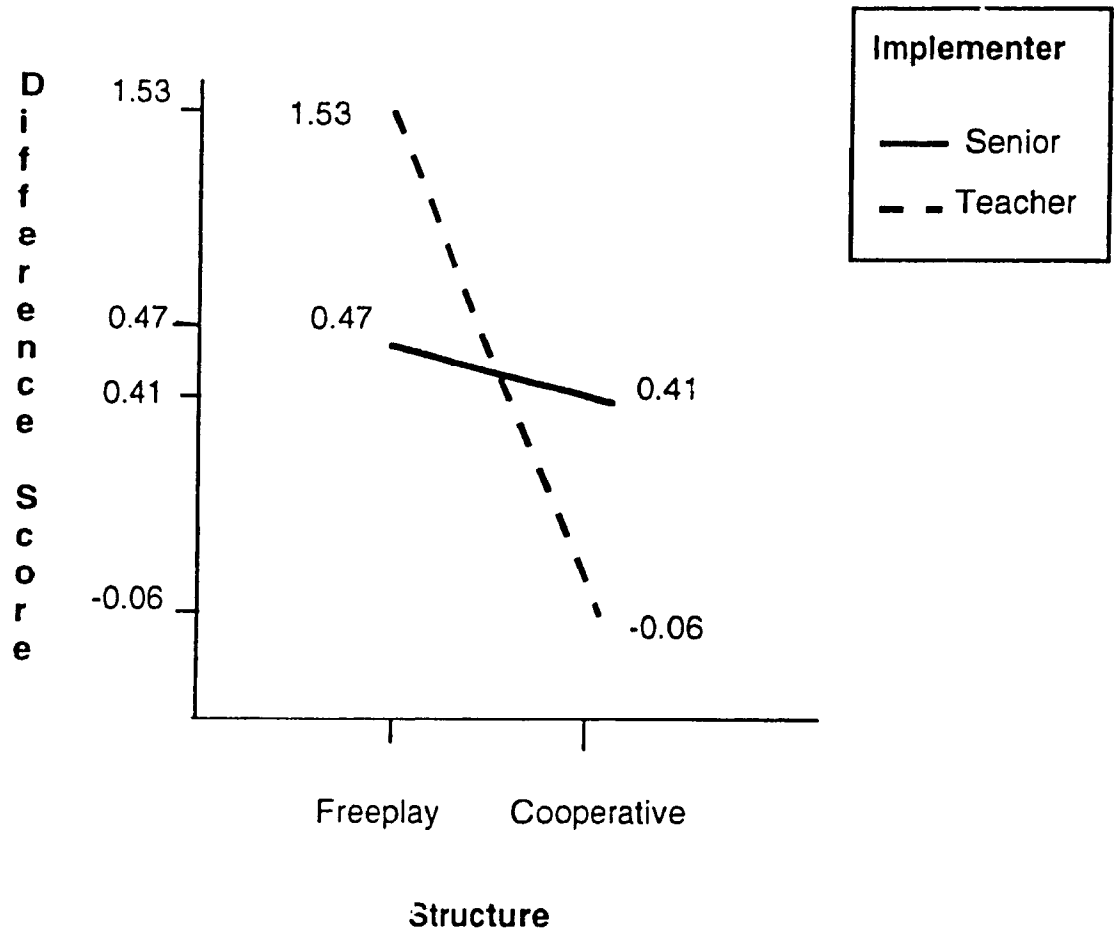


Table 5

Pre/post means, standard deviations and difference scores for sociometric questions by condition

Variable	<u>Senior Freeplay</u>			<u>Senior Cooperative</u>		
	Young mean (SD)	Old mean (SD)	Difference mean (SD)	Young mean (SD)	Old mean (SD)	Difference mean (SD)
like to play with?						
Pre	1.71 (0.90)	0.38 (0.80)	1.33 (1.19)	1.83 (1.09)	0.89 (1.27)	0.94 (1.11)
Post	1.38 (0.80)	1.19 (0.74)	0.19 (0.81) *	1.56 (1.09)	1.39 (1.09)	0.17 (1.02) *
ask for help if lost?						
Pre	1.30 (1.03)	0.45 (0.99)	0.85 (0.81)	1.44 (1.09)	0.50 (0.98)	0.94 (1.16)
Post	1.25 (0.85)	1.10 (0.64)	0.15 (0.93) *	1.50 (1.09)	1.22 (1.11)	0.28 (0.66) *
has free time?						
Pre	0.67 (0.91)	1.19 (1.12)	-.52 (1.50)	0.61 (1.03)	1.33 (1.18)	-.72 (1.12)
Post	1.00 (1.26)	0.86 (1.10)	0.14 (1.31) *	0.89 (1.13)	1.16 (1.24)	-.27 (1.01) *
help your teacher?						
Pre	1.83 (0.70)	0.50 (1.04)	1.33 (0.76)	1.67 (1.13)	0.83 (1.15)	0.84 (1.33)
Post	1.38 (0.97)	1.27 (1.07)	0.11 (0.76) *	1.61 (1.28)	1.61 (1.28)	0.00 (0.76) *
be your friend?						
Pre	1.45 (0.99)	0.40 (0.82)	1.05 (0.94)	1.67 (1.18)	0.83 (1.27)	0.84 (1.35)
Post	1.35 (1.04)	1.65 (1.04)	-.30 (0.92) *	1.33 (1.02)	1.39 (1.03)	-.06 (0.63) *

Variable	<u>Teacher Freeplay</u>			<u>Teacher C:operative</u>		
	Young	Old	Difference	Young	Old	Difference
	mean (SD)	mean (SD)	mean (SD)	mean (SD)	mean (SD)	mean (SD)
Pre						
Post						
like to play with?						
	1.63 (1.02)	0.63 (0.95)	1.00 (1.21)	2.06 (1.06)	0.75 (1.12)	1.31 (1.30)
	1.88 (0.88)	0.38 (0.80)	1.50 (1.03) *	1.94 (1.06)	1.56 (1.15)	0.38 (1.02) *
ask for help if lost?						
	1.47 (1.00)	0.35 (0.60)	1.12 (1.21)	2.06 (0.92)	0.31 (0.49)	1.75 (0.93)
	1.50 (0.81)	0.13 (0.34)	1.37 (0.80) *	1.56 (0.89)	0.63 (0.55)	0.93 (1.28) *
has free time?						
	0.93 (0.88)	2.00 (0.92)	-1.07 (1.33)	0.81 (1.27)	1.88 (1.47)	-0.38 (1.62)
	0.73 (0.88)	1.93 (0.88)	-1.20 (1.42) *	1.06 (1.18)	1.68 (1.13)	-0.62 (1.08) *
help your teacher?						
	1.41 (0.93)	0.47 (0.71)	0.94 (0.96)	2.18 (0.98)	0.88 (1.36)	1.30 (1.66)
	1.68 (0.94)	0.25 (0.77)	1.43 (1.09) *	1.44 (1.09)	1.13 (1.08)	0.31 (1.19) *
be your friend?						
	1.31 (1.01)	0.38 (0.80)	0.93 (0.93)	2.31 (0.97)	0.75 (1.12)	1.56 (1.03)
	1.62 (0.88)	0.19 (0.40)	1.43 (1.03) *	1.44 (0.96)	1.00 (1.09)	0.44 (0.96) *

\* p < .05

the pretest for each behavioral question

Initial between-condition differences were found on only one question, "Who would you like to be your friend?". For this question, an analysis of covariance was computed on the difference posttest score with the pretest difference score as a covariate. A structure by implementer interaction was significant for this question  $F(1, 65) = 11.251, p < .05$  (See Figure 2). Children in the control condition were significantly less likely to select a picture of an older person when asked, "Who would you like to be your friend?". This provides partial support for hypotheses #1 that children in the senior contact groups would display more positive attitudes than those in the noncontact groups and, for hypothesis #2 that children in the senior cooperative conditions would display the most positive attitudes.

As pretest differences were not found for the other sociometric questions, a 2 (implementer) X 2 (structure) analysis of variance was computed on the posttest difference scores for each sociometric question. Results revealed significant differences for the remaining four questions. Hypothesis #1 was supported in that pictures of older persons were selected significantly more often in the senior contact groups when children were asked, "If you were lost in a store, who would you ask for help?" ( $F(1, 66) = 17.540, p < .05$ )

See Figure 3 for an illustration of the implementer by structure interaction which was significant for, "Who would you like to play with?",  $F(1, 67) = 5.437, p < .05$ . Children in the control group were the least likely to choose an old person to play with thus, partially supporting both hypotheses #1 and #2. A significant implementer by structure interaction was revealed for the question, "Who would you like to help your teacher?",  $F(1, 64) = 4.711, p < .05$ , providing partial support for hypotheses #1 and #2 (See Figure 4). Children in the control condition were significantly less likely to select pictures of older persons when

Figure 2

Interaction of structure X implementer for the sociometric question

"Who would you like to be your friend?"

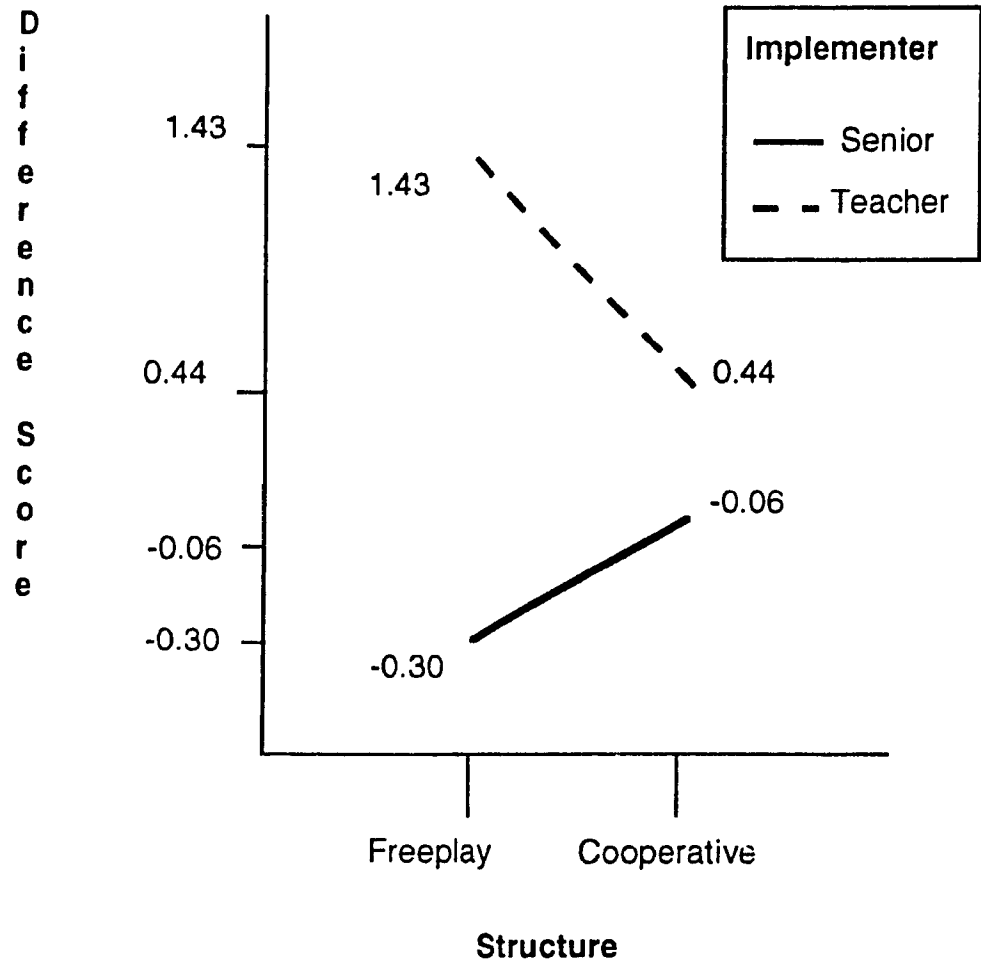




Figure 3

Interaction of structure X implementer for the sociometric question "Who would you like to play with?"

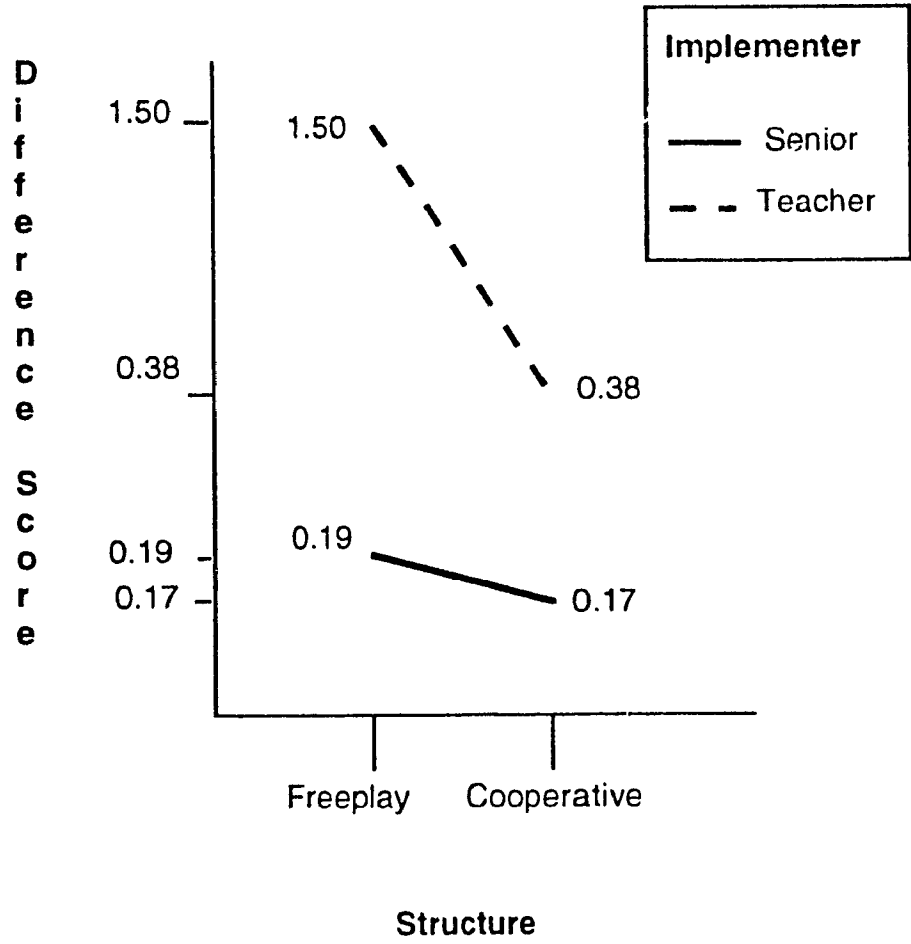
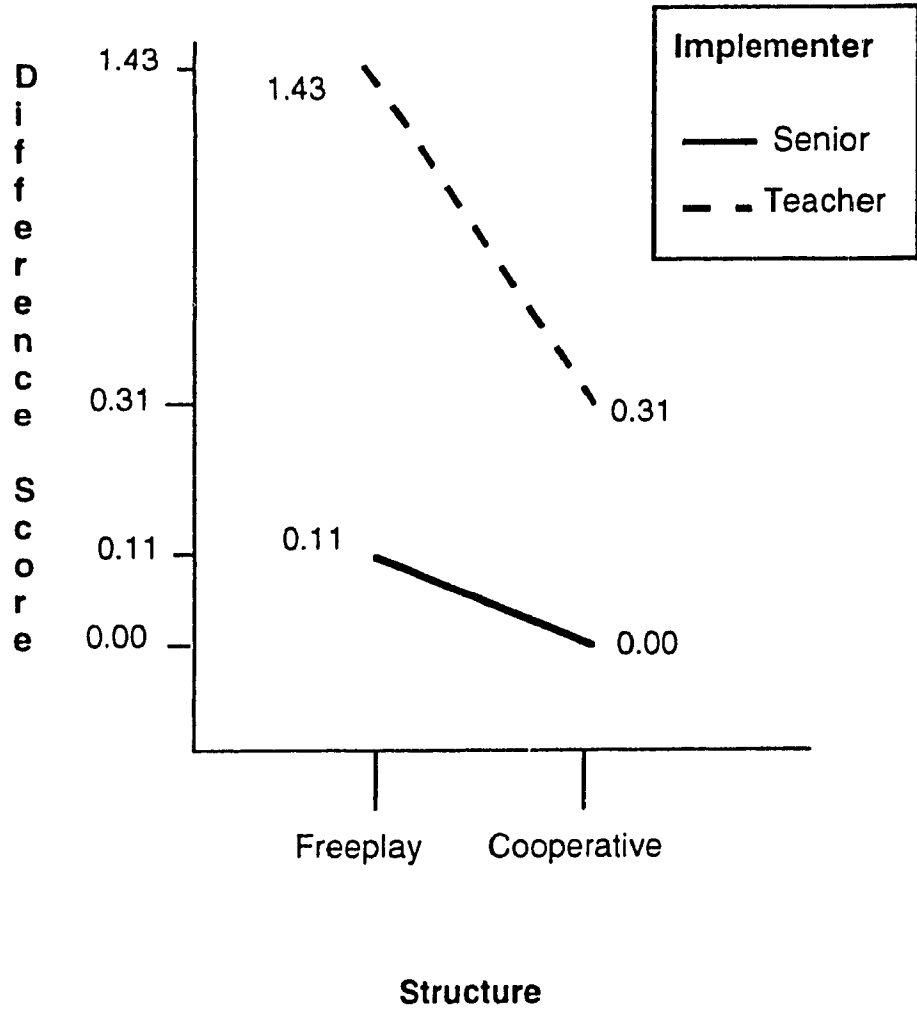


Figure 4

Interaction of structure X implementer for the sociometric question "Who would you like to help your teacher?"



asked this question.

There was a significant main effect for implementer on the question, "Who has a lot of free time?",  $F(1,66) = 8.412$ ,  $p < .05$ , with children in the teacher only conditions selecting old persons as having a lot of free time significantly more often than children in the senior-contact conditions, thus providing partial support for hypothesis #1. In summary, responses to all of the sociometric questions supported hypothesis #1 either totally or partially, while two out of five questions partially supported hypothesis #2

Prosocial Behavior in Young Children (Dellmann-Jenkins et al. , 1991). The responses for each of the three stories (helping, cooperating and helping) were coded and then summed for a total pretest and posttest score for each subject. To determine if there were differences in the posttest means of the Prosocial Behavior in Young Children measure, an analysis of variance was computed. Hypothesis #1 was supported with a significant effect for implementer  $F(1, 60) = 28.748$ ,  $p < .05$ . Children in the senior contact groups were significantly more likely to help, share and cooperate with the elderly puppets than children in the nonsenior contact groups. Support was not found for hypothesis #2.

The sticker sharing task (DeBellefeuille, 1989). The donated stickers were too few in number for statistical analysis to be performed. However, children in the senior contact groups shared more stickers with the older person in the posttest than those in the noncontact groups. Children in the senior contact groups shared a total of 17 stickers compared with three shared in the nonsenior contact groups.

#### Qualitative reports from the senior volunteers.

The senior volunteers reported positive feelings about their participation in the intergenerational program. The seniors were asked to keep a short

journal of their thoughts and feelings about this experience. Three senior volunteers wrote daily reports for a total of 40 entries, each averaging three-quarters of a handwritten page. The fourth senior volunteer gave oral reports during the ongoing meetings as arthritic hands prevented her from writing a daily journal. While reading the journal entries general themes emerged. These themes were categorized as follows: a) initial apprehensions, b) general feelings about the intergenerational experience, c) children's reactions, d) anecdotes, and e) feelings about each other. These anecdotal records demonstrated that the experience for each of the seniors was extremely positive.

Initial apprehensions. The senior volunteers had varying amounts of previous contact with young children. For example, one volunteer had been the director of a large preschool for forty years, a second has close relationships with grandchildren, and the two other volunteers did not have children and had limited formal group experiences with young children. During the training sessions all the volunteers voiced the concern that the children might not like them, or that they may be ignored. The seniors were nervous, but excited about this project.

During the first few weeks, as expected, all of the journal entries indicated these feelings of uncertainty. This was especially true for the volunteer in the cooperative session. While both types of programs involved time and energy, the cooperative condition required the volunteer to be leading a group of children in a series of activities. One journal entry during the first week was, "I felt uncertain about myself. I enjoyed the children. Some were more shy but all were lovable."

General feelings about the intergenerational experience. As the weeks progressed, all of the seniors wrote about their positive experiences with the

children. It was evident that the seniors were becoming more comfortable in their surroundings. For example: Senior A wrote, "It was good to be back to where I belonged for so long." and "Being with children is good therapy for me-I feel alive again-the first time in nearly three years."

Senior B wrote, "I am so glad they (the children) remember me and are glad to see me." Senior C wrote, "Highlight for me was when I went to put on my coat-at least half the class came to the door to give me a big hug and wave as I left." and "Good response from the children. One lad who's been aloof up to now, was extremely warm and friendly today." Senior D reported that, " We feel we have a truly warm relationship with the children."

Toward the end of the program, the four seniors began to express regret and sadness as the program was drawing to a close. Several of the senior volunteers arranged with the teachers in the participating classes to continue visiting after the end of the program. The journal entries demonstrated that they were anxious to continue their visits with the children. One of the seniors wrote; "...we really do not want to lose touch with the children or with the teacher."

Another senior wrote, "What will I do when this project is over?" "Today is a sad day, it is the last day with the dear little children." and "I had to say 'farewell' to one of the warm, friendly children. Felt sad about this-as if I were losing a friend. But I'll keep a pleasant memory of her." Senior D reported that "The icing on our 'volunteer cake' was when after several sessions, when R and I left to go home, all of them without exception came to where we putting on our coats and there were big hugs and kisses (and I mean big big hugs) and some of them did not want us to leave. What a great reward for both of us." During the ongoing meetings, the following sentiments were expressed by two of the senior volunteers, "...I feel that we have come a long way in our relationship with the children.". "I have learnt the secret of getting through these

reputed 'golden years'! It is to keep busy and to feel part of something. What could be better for me than the nursery school?". "Thank-you for taking me back to the world of children."

Children's reactions The seniors perceived that the children were also feeling much more comfortable with their visits. On one particular day when one senior could not attend, the children expressed concern about their missing 'Nana'. The following entry was written by a senior volunteer visiting the same class as the absent 'Nana': "...when Diana saw Nana was not going to be there, she looked truly sad So I knew I would have to give my full attention to Diana for a little while as I did not want tears to appear."

Anecdotes. In some of the entries the seniors described the activities they did with the children. In the freeplay visit condition, the three seniors reported that they engaged in the following activities: read stories, played with the blocks, were served 'tea' by the children, helped to put together puzzles (although one senior wrote "I am learning how to do jigsaws from the children."). One of the seniors fell into a regular routine reading at least one story to a group of children during each visit. In the cooperative games condition, the senior volunteer found that some games were more popular than others: Ghost, musical chairs and 'There's someone living on a big, high hill' proved to be enjoyable over and over again. For example one entry was, "Musical chairs went down very well with everyone sharing one chair in the end and loving it."

During the course of the nine week program, two seniors commented on meeting groups of "their" children in the community. On both occasions the seniors were recognized and greeted warmly by the children. "She (the child) gave me a warm greeting when I met her on the street recently." While traveling on a city bus one senior met a group of children and wrote " ...when the children saw me they all smiled and greeted me warmly. They got off the bus in an

orderly fashion ... I was proud of them."

Feelings about each other. A related outcome that the senior volunteers reported was meeting new friends of their own age. The seniors often mentioned that they would go have a coffee with several of the other volunteers during the week. One senior invited the group to her apartment for afternoon tea. All of the seniors commented on how well the group got along and how it was so nice to meet new people. The group appeared to be committed to maintaining their new friendships even after the project had finished

Although the seniors were initially nervous about their visits with the children, by the end of the nine weeks they were very comfortable with their relationship with the children. It is evident from the journal reports and informal conversations with the seniors that the experience was a very positive one for this group of volunteers.

#### Summary of the results

In the present study two hypotheses were investigated; 1.) Children in the senior visit-only and senior cooperative conditions were expected to show more positive attitudes toward the elderly than children in the teacher cooperative or the control conditions. 2.) Children in the senior cooperative condition were expected to show the most positive attitudes toward the elderly compared to children in the senior visit-only, the teacher cooperative, or the control condition. In summary, the results of the four measures revealed a trend showing moderate support for hypothesis # 1. To a limited extent support was also given to hypothesis # 2. Children in the senior-contact groups were selected as being friendly, and if lost, an old person would be asked for help. In addition, children in the senior contact groups would be willing to share, help and cooperate with an older person as measured by the Prosocial Behavior in Young Children (Dellmann-Jenkins et al. , 1991). Children in the control groups selected old

persons as slow, and did not choose old persons to be their friend, to play with, or to help their teacher. Control group children were also more likely to select old persons as having more free time. Although several of the semantic differential pairs did not reveal significant results, a trend emerged with the control group children holding more negative attitudes toward the elderly than the senior contact groups. An unexpected result was that children in the senior-contact condition selected seniors as being sick more than those in the noncontact condition. The following section will present a discussion and interpretation of the results.



## DISCUSSION

The main focus of this study was to investigate the effects of intergenerational programs on children's attitudes toward the elderly. A second major focus was to determine the impact of the type of visiting structure (unstructured visits or cooperative games) by senior volunteers on preschool children's attitudes toward the elderly. A third focus of the study was to report on the senior volunteers experience in the intergenerational program. In general, the present study found moderate support for the hypothesis that children in the senior contact groups would hold more positive attitudes toward the elderly than children in the noncontact groups. Furthermore, partial support for the hypothesis that children in the senior cooperative condition would hold the most positive attitudes was demonstrated.

This section first discusses initial differences on some of the pretest measures, discusses the major findings, presents some limitations of the present study, and finally addresses some directions for future research and implications for early childhood education.

### Initial between condition differences in the semantic-differential, sociometric questions and sticker sharing tasks

Preliminary analysis revealed initial between-condition differences on two adjective pairs, friendly/unfriendly and sick/healthy. On the pretest, children in the teacher cooperative condition rated old persons as being significantly more friendly than young persons. A possible explanation for this difference is that in one of the teacher cooperative child care centres a senior citizen was a regular visitor. The presence of this volunteer was not made known to the researcher until the end of the study. Children in the other three conditions did not have such regular contact with a senior volunteer prior to the beginning of this study. The regular contact with the senior volunteer may have had a

positive effect on the children's attitudes in this condition, possibly biasing the results. For the pretest sick/healthy adjective pair, children in the control condition selected old persons as being sick significantly more than the other conditions. This perception is consistent with prior research (e.g., Dellmann-Jenkins et al. , 1986), in that children without contact with seniors hold negative attitudes. Why this perception was not consistent for the other three conditions is not clear, perhaps children in the control condition had more contact with unwell elderly relatives or family friends.

Initial between-condition differences on the pretest were also found for one sociometric question, "Who would you like to be your friend?". Children in the teacher cooperative condition were significantly less likely to choose a senior as a friend. Usually, this initial finding would not be surprising as several studies have demonstrated that young children hold negative attitudes toward the elderly. However, as discussed previously, one class in this condition was exposed to a senior volunteer on a regular basis; therefore, it was not expected that a significant pretest difference would be found for this particular condition. It is possible that children in this condition were willing to assign characteristics to seniors (e.g., happy, slow, bad) yet, were unwilling to select old persons when asked questions about specific behaviors (e.g., be a friend, play with). Fillmer (1984) found that older children assigned positive semantic-differential adjectives to old persons yet, selected significantly fewer positive sociometric questions for older persons. Due to initial pretest differences on these items, further analysis used the appropriate pretest score as a covariate.

#### Major findings of the present study

The adapted semantic-differential task of Children's Attitudes Toward the Elderly (Jantz et al. , 1976). Analyses of this scale revealed three significant results for hypothesis #1, two supporting, and one refuting. The finding that

children in the senior contact conditions were significantly more likely to select an old person as friendly, a positive attribute, than children in the noncontact conditions and that, children in the control condition were significantly more likely to select an old person as being slow, support the hypothesis that the children with senior contact conditions would hold more positive attitudes toward the elderly. Although significance was not found for four of the adjective pairs (happy/sad; bad/good; kind/mean; and pretty/ugly), a trend indicated that children in the senior contact groups held more positive attitudes toward the elderly than nonsenior contact children. These findings confirm previous research by Caspi (1984) and Dellmann-Jenkins et al. (1986). Both these studies found that children exposed to intergenerational contact increased their positive attitudes towards seniors after exposure to seniors. Secondly, these studies also found that children in the control group remained vague or negative in their responses.

An unexpected finding revealed that children in the senior contact groups selected old persons as being being sick significantly more than children in the teacher contact groups. A possible explanation for this result is that on several occasions the senior volunteers were unable to visit the children. The children were told that the senior volunteers would not be visiting on that day as they were sick. In the present study viewing old persons as sick was, to some extent, an accurate perception!

The sociometric questions Analyses of the sociometric questions revealed one significant result supporting the senior-contact condition, and four providing partial support. Children in the control group were significantly less likely to select seniors to be their friend, to play with, or to help their teacher than children in the other conditions. Piaget argues that it is through active experiences that children can create new schema, or modify existing schema.

The children in the control group had no exposure to seniors in the child care setting thus, they had no opportunity to gain new information about or to interact with older persons. therefore their attitudes about the elderly remained negative.

The intent of the question, "Who has a lot of free time?" was to determine if children believed that old persons did not do much during the day. The rationale for the question was that if children rated seniors as having a lot of free time then this would be viewed as a negative attitude. The control group children selected seniors as having a lot of free time, similar to results found by Burke (1982). The children in the other conditions were exposed to seniors on a regular basis, and they viewed seniors as having a lot to do during the day, thus, this finding also provides support for hypothesis #1.

The Prosocial Behavior in Young Children . (Dellmann-Jenkins et al. , 1991) Results of this task provided support for the hypothesis that children with senior contact would have more positive attitudes toward the elderly than those without contact. The Prosocial Behavior in Young Children task measures children's intentions to behave toward old persons. On the posttest, children in the senior contact conditions were significantly more willing to share, help and cooperate with the elderly than children in the nonsenior contact conditions. This finding is consistent with Dellmann-Jenkins et al. (1991). According to the seniors' journals, the volunteers were involved in a variety of activities including working together to put the toys away during tidy-up time. While this did not occur on each visit, perhaps the fact that the children and seniors were working together carried over to the Prosocial Behavior in Young Children task.

The sticker sharing task . Although the total number of stickers shared was very few, children in the senior contact groups shared more stickers on the posttest. Whereas, the Prosocial Behavior in Young Children task measures

intentions to behave, the sticker sharing task provides data on children's actual behavior. Children in the senior contact groups were willing to give a tangible item in their possession to an older person that they did not even know. This type of behavioral measure has not been included in previous intergenerational research, but should be employed in future research to determine if children actually behave differently toward the elderly after having participated in an intergenerational program.

#### Attitudes of children toward the elderly

Over half of the children were able to identify correctly the young pictures as young and the old pictures as old. A reason for having children select between young and old was to ensure that children had the ability to discriminate on the basis of age. There were no significant differences found between conditions on either the pretest or the posttest. Other researchers have investigated children's ability to identify old and young, for example, Burke (1982) showed young children pictures (males and females in mid 20's and over 65 years of age) and asked, "Who is older?" and "Who is younger?" . Results revealed older children (6 years) were able to discriminate correctly significantly more often than the younger children, yet even young children were able to discriminate at least one of three pictures correctly. Miller et al. (1984) also found that children as young as three years were able to identify consistently the oldest person when shown two pictures, one of a young person and one of an older person.

The hypotheses for the present study were based upon a theoretical rationale that through concrete, active interactions with senior volunteers, children would assimilate new positive and realistic information about seniors into their existing schemata. Thereby, children would demonstrate a change in attitudes toward the elderly as measured by the various tasks. Providing

pleasant experiences with senior volunteers was hypothesized to be a viable method to change children's attitudes toward the elderly. The findings of the present study provided support for this hypothesis. At the posttest, after nine weeks of an intergenerational program, children's attitudes in the senior contact groups differed significantly from noncontact groups on several different types of measures. Although significance was not revealed for four of the semantic-differential adjectives a trend supporting hypothesis #1 was seen. It appears that this developmentally appropriate contact was beneficial in changing children's attitudes toward the elderly. Triandis (1971) suggests that it is through direct experiences that the most intense attitudes are formed. This is in keeping with Piaget's theory that through active experiences children develop new schemas about the world. The intergenerational programs were designed so that children would be exposed to regular contact with senior volunteers who were trained to interact in a developmentally appropriate manner with young children. Children in the senior contact conditions had ongoing, interactive contact with the seniors, thus providing opportunities for children to learn about characteristics of older persons through hands-on experiences. The results of the present study provide support for the use of direct-contact activities in intergenerational programs to promote positive attitude change.

Erikson's theory of identity development (1963) was used as a rationale for developing and creating intergenerational programs. Contact between the generations through planned intergenerational exchange can facilitate identity development of both children and seniors. The senior volunteers journals' provided some evidence that the seniors fostered children's trust, autonomy, independence and competence. For example, one senior met 'her group' of children on a city bus. She wrote that the children were very well behaved and that she was very proud of them. These feelings could help children build a

sense of trust and autonomy. Another senior wrote that the children were always helping her to put the puzzles together. This experience could help children to develop feelings of initiative and competence. These anecdotal reports provide support for the value of intergenerational programs to enhance a positive sense of identity for young children.

Children in the control group were significantly less likely to select seniors for four of the sociometric questions, also supporting hypothesis #1. The children in this condition were not exposed to senior contact, and consequently had no new information or experiences to accommodate or assimilate into their schemas of the elderly.

Support for hypothesis #2 was limited with structure by implementer interactions for two sociometric questions, ("Who would you like to play with?"), ("Who would you like to help your teacher?"), thus providing partial support for the senior cooperative conditions. It was hypothesized that through a structured program of cooperative activities, children in the senior cooperative condition would have more positive attitudes than children in the other conditions. There are several possible explanations for the lack of support for this hypothesis. First, only one senior volunteer implemented the cooperative games program. Originally, pairs of seniors were to visit the children's classes to play the cooperative games, but due to personal reasons, one senior was unable to participate in the study. This meant that only one senior implemented the cooperative games in the senior cooperative condition. In the other senior conditions, pairs of seniors interacted with the children. Therefore, the children in the senior cooperative conditions received half the amount of contact as children in the visit-only conditions. It is possible that in the senior cooperative condition the seniors' personality and individual style of interacting with the children biased the results. Second, the pre-intervention training for the senior

volunteers for their visits with the children was an important component of this study. Observations of previous intergenerational programs and prior research (e.g., Baggett, 1981) have demonstrated that seniors were not always aware of their role with the children. This lack of training appeared to have a negative impact on the quality of the intergenerational exchange as the seniors were inadequately prepared for their visits. The lack of training may also have led to the lack of significant change in children's attitudes toward the elderly in previous studies. In the present study, the volunteers participated in several pre-visit training sessions and attended regular meetings throughout the intergenerational program. Through hands-on experiences (e.g., visiting a preschool class after hours to explore the environment and learn about the different discovery centres), role-play and discussions the seniors learnt about the characteristics of young children. The type and amount of training for the senior volunteers in the present study appears to have had a positive impact on the quality of the contact between children and seniors in both senior contact conditions. The lack of support for hypothesis #2 could, therefore, be attributed to the pre-visit preparation of the seniors. Perhaps due to the training, all the seniors took an active approach when interacting with the children.

In order to ensure that the contact would be mutually beneficial for both children and seniors, both the visit-only condition and the cooperative games condition were designed to fulfill the necessary requirements of Amir's (1968) contact hypothesis. Both groups were treated with respect, and the contact was consistent and ongoing, while the activities were important and interesting. Children in the control condition displayed negative attitudes toward seniors in both pre and posttest, thus providing partial support for both hypotheses.

The fact that strong support was not found for hypothesis #2 may demonstrate that children merely need regular and frequent contact with the



elderly in order to improve attitudes. While there is some support for this in the literature (Carstensen et al . 1982; Dellmann-Jenkins et al , 1986; 1991), other studies (Baggett, 1981; Seefeldt, 1987b) have not found support for unstructured intergenerational contact.

#### The senior volunteers experience

The qualitative results of the present study provide overwhelming support for involving senior citizens in the child care setting. The senior volunteers were excited and enthusiastic about participating in an intergenerational program. The journal reports provided substantial evidence that the experience was a positive one for the volunteers. Through this experience, one senior wrote that since participating in this project her life has meaning again. While it was not the purpose of this study to delve into the personal history of each senior, this program seemed to have positively affected the seniors feelings of identity. According to Erikson (1963) the concept of generativity can be developed through productive endeavors such as establishing relations with the next generation. Participation in the intergenerational program appeared to have helped seniors develop a positive sense of generativity, for example, one senior expressed the sentiment that this experience provided an opportunity to keep busy and to be a part of an important activity. Other volunteers reported that the children would hug and kiss them upon arrival and departure, this display of affection was welcomed by the seniors and helped them feel that they were appreciated and liked by the children. The seniors took their role as volunteers very seriously, and felt they were performing an important job thus, promoting a sense of generativity. At the end of the nine-week program, the volunteers expressed an interest in continuing to visit the children in the future. In addition to the contact with the children, the seniors gained a new network of friends with whom they could share their experiences. This interaction with peers could

foster a sense of ego integrity for the seniors. It appears that the intergenerational program in the present study provided experiences that promoted a positive sense of self-worth and self-esteem for this group of senior volunteers.

#### Limitations of the study

Although the present study offers new evidence that intergenerational programs have a positive effect on preschool children's attitudes toward the elderly, there are several issues which may reduce the validity and the generalizability of the results. First, the cell sizes for each condition were small and although classes were randomly assigned to condition they might not be representative of all preschool children. Second, large standard deviations for the semantic-differential pairs and the sociometric questions mean that a large number of children in each condition used the whole range of scores when providing answers. The large variability could be due to the lack of reliability for these measures or the amount of time it took for the children to complete the tasks. Third, on several items, initial between-condition differences were found using the pretest scores. Consequently, the corresponding pretest was used as a covariate in further analyses for these particular items. Therefore, the results of these particular measures should be interpreted with caution.

Fourth, originally pairs of seniors were to visit the children's classes, however due to personal reasons, two seniors were unable to participate in the study. This meant that only one senior implemented the cooperative games in the senior cooperative condition, and one senior visited one of the senior freeplay conditions. It is possible that it was the individual styles of interacting with the children that influenced the results. Naturalistic observations of the senior-child contact would have addressed this question. Also, in one of the teacher cooperative groups, a senior volunteer (unrelated to this study) was a

regular visitor to the class. The presence of this volunteer was not made known to the researcher until near the completion of the study. This local history event was a threat to the internal validity of the study

Fifth, the children in the teacher cooperative groups were exposed to eight weeks of treatment as opposed to nine weeks for the senior contact groups. This was because two original teacher cooperative classes decided at the last minute not to participate in the study. The amount of time required to implement each cooperative session (thirty minutes) was given as the reason for deciding to withdraw from the study. This lack of control, which threatens the internal validity of the study, is typical of field research. It is compensated for somewhat, by the knowledge that the findings are relevant to at least some actual educational settings. In an applied area like education, generalizability to real classrooms is important

As this was a quasi-experimental nonequivalent control group study, intact groups were randomly assigned to each condition. The use of intact groups raises some limitations about the population that was studied. Children in this particular study were all preschoolers, the majority spoke English as their first language and, the majority of children were enrolled in a full-day child care program. It is likely that the results would be similar for a wider population but one cannot state this with certainty.

Nevertheless, the findings are consistent with previous literature and strongly supported the hypothesis that children in the senior contact groups would demonstrate more positive attitudes toward seniors on the posttest. This suggests that contact with senior citizens through intergenerational programs can have a positive effect on preschool children's attitudes toward the elderly.

#### Future research directions

The present study focused on the effects of two types of intergenerational

programs on preschool children's attitudes toward the elderly. It was found that the type of senior contact significantly influenced only a few children's attitudes. Several possible explanations were given for the lack of significant findings for the second hypothesis. Future studies should extend the investigation of intergenerational programs to determine the effects of different types of activities on children's attitudes toward the elderly and on the necessity of training seniors in developmentally appropriate interactions.

A second direction for future research would be to investigate if children maintain positive attitudes toward the elderly over time. In the present study, children's attitudes were measured one week after the completion of the program. Future studies should measure attitudes after several weeks or possibly months to investigate if intergenerational programs produce long-term changes in young children's attitudes.

Originally, in the present study, the amount of previous contact children had with seniors was to be investigated through parent questionnaires. Although steps were taken to increase the number of completed questionnaires received from parents, the response rate was very low, therefore preventing analysis of the results. As parents did not complete written questionnaires future studies could gather this information through short telephone interviews. Future research should investigate the amount and type of contact with seniors to determine if a relationship exists between prior contact and attitudes toward the elderly.

The lack of reliable and valid measures for assessing young children's attitudes is a problem in the area of attitudinal research. The present study used one behavioral measure, the sticker sharing task, in order to determine if children were willing to share with an older person. This measure should be used in future research. Perhaps other behavioral measures, such as, bringing

in an unfamiliar elderly person and observing how children in different conditions react to this individual could provide more insight into the actual behaviors between children and the elderly.

Finally, the senior volunteers who participated in the present intergenerational program were all female. Future studies should recruit senior male volunteers to determine if gender plays a role in children's attitudes.

#### Implications for education

The present study offers some practical suggestions for early childhood educators. Intergenerational exchange can provide opportunities for children and the elderly to share worthwhile experiences. Intergenerational programs are recommended as an effective way to bring children and seniors together to enhance children's attitudes toward the elderly. Although not directly tested in this study, the results would indicate that before launching an intergenerational program, it is important to prepare and train the senior volunteers. In the present study, the training involved discussions, activities and films about developmentally appropriate practice, guidance techniques and promoting a sense of positive self-esteem. The type of training will vary from program to program depending upon individual needs; however, the senior volunteers valued and appreciated the ongoing meetings as a method of reporting on their successful and not-so-successful experiences with the children.

The fact that children have direct-contact with seniors is an important component of intergenerational exchange. Both interacting during freeplay and implementing cooperative games allowed for seniors and children to be involved in fun and interesting activities. Seniors felt they were involved in important activities, thus, fulfilling one of the conditions of Amir's (1969) contact hypothesis.

A certificate of participation was given to each senior volunteer at the

conclusion of the program. This simple gesture to thank the participants and to recognize their important contribution to the project was received with great enthusiasm. When implementing an intergenerational program recognizing participation through certificates or other means may be an effective method to provide seniors with a sense of accomplishment.

### Conclusion

The present study found that before the intervention children held mixed attitudes toward the elderly. After the treatment, children without senior-contact demonstrated the most negative attitudes toward the elderly; thus, providing evidence that intergenerational contact can be effective. Intergenerational programs in child care settings can be an important vehicle for helping children have positive and realistic attitudes toward the elderly.

## References

- Abrami, P. C. , Chambers, B , Poulsen, C., Howden, J. , d'Apollonia, S. , De Simone, C. , Kastelorizios, K , Wagner, D. , & Glashan, A. (1993) Using cooperative learning . Dubuque: Wm. C. Brown
- Aday, R. H. , Sims, C. R. , & Evans, E. (1991). Youth's attitudes toward the elderly: The impact of intergenerational partners. The Journal of Applied Gerontology , 10 , 372-384.
- Allport, G. (1967) . Attitudes. In M. Fishbein (Ed.) Attitude theory and measurement (pp. 8 ). New York: John Wiley and Sons.
- Almerico, G. M. ,& Fillmer , T. (1988). Portrayal of older characters in children's magazines. Educational Gerontology , 14 , 15-31.
- Baggett, S. (1981). Attitudinal consequences of older adult volunteers in the public school setting. Educational Gerontology , 7 , 21-31.
- Burke, J. E. (1982). Young children's attitudes and perceptions of older adults. International Journal of Aging and Human Development , 14 , 205-222.
- Baum, M. , Newman, S. , & Shore, B. K. (1982). Learning about aging through intergenerational experiences. Gerontology and Geriatric Education , 2 , 313-316.
- Carstensen, L. , Mason, S. E. , & Caldwell, E. C. (1982). Children's attitudes toward the elderly: An intergenerational technique for change. Educational Gerontology , 8 , 291-301.
- Caspi, A. (1984). Contact hypothesis and inter-age attitudes: A field study of cross-age contact. Social Psychology Quarterly , 47 , 74-80.
- Chitwood, D. G. , & Bigner, J. J. (1980). Young children's perceptions of old people. Home Economics Research Journal , 8 , 369-375.
- Click, E. T. , & Powell, J. A. (1976). Preschool children's perceptions of the

- aged. Stillwater, OK: Oklahoma State University, Division of Home Economics. (ERIC Document Reproduction No ED 149 849).
- Cooper, C. R. (1980). Development of collaborative problem solving among preschool children. Developmental Psychology , 16 , 433-440.
- Couper, D. P. , Sheehan, N. W. , & Thomas, E. L. (1991). Attitudes toward old people: The impact of an intergenerational program. Educational Gerontology , 17, 41-53.
- Darling-Fisher, C. S. , & Leidy, N. K. (1988). Measuring Eriksonian development in the adult: The modified Erikson psychosocial stage inventory. Psychological Reports , 62 , 747-754.
- Davis, J. A. (1988). A student perspective on growing old. Educational Gerontology , 14 , 525-567.
- Davis, R. H. , & Westbrook, G. J. (1981). Intergenerational dialogues: A Tested educational program for children. Educational Gerontology , 7 , 383-396.
- DeBellefeuille, B. (1989). The influence of cooperative learning activities on the perspective-taking ability and prosocial behavior of kindergarten students . Unpublished doctoral dissertation, McGill University, Montreal.
- Dellmann-Jenkins, M. , Lambert, D. , Fruit, D. , & Dinero, T. (1986). Old and young together: Effect of an educational program on preschoolers' attitudes toward older people. Childhood Education, 62 , 206-212.
- Dellmann-Jenkins, M. , Lambert, D. , & Fruit, D. (1991). Fostering preschoolers' prosocial behaviors toward the elderly: The effect of an intergenerational program. Educational Gerontology , 17 , 21-32.
- Erikson, E. H. (1963) . Childhood and society. New York: W. W. Norton.
- Fillmer, H. T. (1982). Sex stereotyping of the elderly by children. Educational Gerontology , 8 , 77-85.
- Fillmer, H. T. (1984). Children's descriptions of and attitudes toward the elderly.



- Educational Gerontology , 10 , 99-107.
- Ginsburg, H. P. , & Opper S. (1988). Piaget's theory of intellectual development (3rd ed. ). Englewood Cliffs, NJ: Prentice Hall.
- Goffin, S. G. (1987). Cooperative behaviors: They need our support. Young Children , 28 , 75-81.
- Glass, J. C. , & Knott, E. S. (1982). Effectiveness of a workshop on aging in changing middle-aged adults attitudes toward the elderly. Educational Gerontology , 8 , 359-372.
- Goldman, R. J. , & Goldman, J. D. G. (1981). How children view old people and ageing: A developmental study of children in four countries. Australian Journal of Psychology , 33 , 405-418.
- Hall, E. (1987). Growing and changing: What the experts tell us . New York: Random House.
- Hickey, T. , Hickey, L. A. , & Kalish, R. A. (1968). Children's perceptions of the elderly. The Journal of Genetic Psychology , 112 , 227-235.
- Hill, T. , & Reed, K. (1990). Promoting social competence at preschool: The implementation of a co-operative games programme. Early Child Development and Care , 59 , 11-20.
- Janelli, L. M. (1988). Depictions of grandparents in children's literature. Educational Gerontology , 14 , 193-202.
- Jantz, R. K. , Seefeldt, C. , Galper, A. , & Serlock, K. (1976). Curriculum guide: Children's attitudes toward the elderly . College Park, MD: University of Maryland, Center on Aging.
- Jantz, R. K. , Seefeldt, C. , Galper, A. , & Serlock, K. (1976). The CATE Test Manual: Children's Attitudes toward the Elderly. University of Maryland (ERIC Document Reproduction Service No. 181 081).
- Johnson, R. T. , & Johnson, D. W. (1975). Learning together and alone .

London: Prentice-Hall.

- Jones, L. (Producer). (1990). Share it with the children [Video]. University of Pittsburgh, PA: Generations Together.
- Kagan, S. (1989). The structural approach to cooperative learning. Educational Leadership , 47 , 12-15.
- Klausmeirer, H. J. , & Ripple, R. E. (1971). Learning and human abilities (3rd ed.) . New York: Harper Row.
- Kogan, N. (1961). Attitudes toward old people: The development of a scale and an examination of correlates. Journal of Abnormal and Social Psychology , 62 , 44-54.
- Lambert, D. J. , Dellmann - Jenkins, M. , & Fruit, D. (1990) Planning for contact between the generations: An effective approach. The Gerontologist , 30 , 553-556.
- Liebman, T. H. (1986). We bring generations together! . In J. M. McCracken (Ed. ) , Reducing stress in young children's lives (pp. 53-56). Washington, DC: National Association for Education of Young Children.
- Lowenthal, B. & Egan, R. (1991). Senior citizen volunteers in a university day-care center. Educational Gerontology , 17 , 363-378.
- Maguire, T. O. (1974). Semantic differential methodology for the structuring of attitudes. American Education Research Journal , 10 , 295-306.
- Marks, R. , Newman, S. , & Onawola, R. (1985). Latency-aged children's views of aging. Educational Gerontology , 11 , 89 -99.
- McTavish, D. G. (1971). Perceptions of old people: A review of research methodologies and findings. The Gerontologist , 11 , 90-101.
- Mead, M. (1970). Culture and Commitment. New York: Doubleday.
- Miller, S. M. , Blalock, J. , & Ginsburg, H. J. (1984). Children and the aged: Attitudes, contact and discriminative ability. International Journal of

- Aging and Human Development , 19 , 47-53.
- Murphy-Russell, S. , Die, A. H. , & Walker, J. L. (1986). Changing attitudes toward the elderly: The Impact of three methods of attitude change. Educational Gerontology , 12 , 241-251.
- Newman, S. , & Riess, J. (1990). Older workers in intergenerational child care. Pittsburgh: University of Pittsburgh, Generations Together.
- Nishi-Strattner, M. , & Myers, J. E. (1983). Attitudes toward the elderly: An intergenerational examination. Educational Gerontology , 9 , 389-397.
- Novak, M. (1988). Aging and society: A Canadian perspective . Scarborough, ON: Nelson.
- Olejnik, A. B. , & LaRue, A. A. (1981). Changes in adolescents' perceptions of the aged: The effects of intergenerational contact. Educational Gerontology , 6 , 339-351.
- Orlick, T. D. (1981a). Positive socialization via cooperative games. Developmental Psychology , 17 , 426-429.
- Orlick, T. D. (1981b). Cooperative play socialization among preschool children. Journal of Individual Psychology , 37 , 54-63.
- Page, S. , Olivas, R. , Driver, J. , & Driver, R. (1981). Children's attitudes toward the elderly and aging. Educational Gerontology , 7 , 43-47.
- Pepitone, E. A. (Ed.). (1980). Children in cooperation and competition . Lexington, MA: D. C. Heath.
- Perlmutter, M. , & Hall, E. (1985). Adult aging and development . New York: Wiley.
- Rich, P. E. , Myrick, R. D., & Campbell, C. (1983). Changing children's perceptions of the elderly. Educational Gerontology , 9 , 483-491.
- Seefeldt, C. (1987a). Intergenerational programs, making them work. Childhood Education , 64 , 14-18.

- Seefeldt, C. (1987b). The effects of preschoolers' visits to a nursing home. The Gerontologist , 27 , 228-232
- Seefeldt, C. , Jantz, R. K. , Serlock, K. , & Bredekamp, S. (1979) Young and old together. A training manual for intergenerational programs. College Park, MD: University of Maryland, Center on Aging. (ERIC Document Reproduction Service No. ED 210 089)
- Seefeldt, C. , Jantz, R. K. , Galper, A. , & Serlock, K. (1977). Using pictures to explore children's attitudes toward the elderly. The Gerontologist , 17 , 506-512.
- Seefeldt, C. , Jantz, R. K. , Galper, A. , & Serlock, K. (1981). Healthy, happy, and old: Children learn about the elderly. Educational Gerontology , 7 , 79-87.
- Sheehan, R. (1978). Young children's contact with the elderly. Journal of Gerontology . 33 , 567-574.
- Slavin, R. E. (1987). Developmental and motivational perspectives on cooperative learning: A reconciliation. Child Development , 58 , 1161-1167.
- Solomon, D. , Watson, M. , Schaps, E. , Battistich, V. , & Solomon, J. (1990). Cooperative learning as part of a comprehensive classroom program designed to promote prosocial development. In S. Sharan (Ed.). Cooperative learning: Theory and research (pp.231-260). New York: Praeger.
- Thomas, E. C., & Yamamoto, K. (1975). Attitudes toward age: An exploration in school-age children. International Journal of Aging and Human Development , 6 , 117-129.
- Triandis, H. C. (1971). Attitude and attitude change. New York: John Wiley and Sons.

- Trent, C. , Glass, J. C. , & Crockett, J. (1979). Changing adolescent 4-H members' attitudes toward the aged. Educational Gerontology , 4 . 33-48.
- Tuckman, J. , & Lorge, I. (1953). Attitudes toward old people. Journal of Social Psychology , 37 , 249-260.
- Tuckman, J. , & Lorge, I. (1958). Attitudes toward aging of individuals with experience with the aged. Journal of Genetic Psychology, 92 , 199-215.
- Ventura-Merkel, C. , & Freedman, M. (1988). Helping at-risk youth through intergenerational programs. Children Today , 17 , 10-13.
- Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes . Cambridge: Harvard University Press.
- Watson, M. S. , Hildebrandt, C. , & Solomon, D. (1988). Cooperative learning as a means of promoting prosocial development among kindergarten and early primary grade children. International Journal of Social Education , 3 , 34-47.
- Wadsworth, B. J. (1979). Piaget's theory of cognitive development (2nd ed. ). New York: Longman.
- Weinberger, A. (1979). Stereotyping of the elderly, elementary school children's responses. Research on Aging , 1 , 113-136.
- Ziemba, J. , Roop, K. , & Wittenberg, S. (1988). A magic mix: Afterschool programs in a nursing home. Children Today , 17 , 9-13.

Appendix A  
Letters of Consent

September 1992

Dear Parents:

The Centre for the Study of Classroom Processes, Department of Education, Concordia University is conducting a research project investigating the interactions between young children and senior citizens. As part of this research, children will be individually asked to play two games with Margaret Patten during the week of September 28, 1993. Children will be shown a variety of pictures and asked to several questions about young and older persons. Children will participate in a similar set of games again during the week of December 14, 1992. All responses will be kept confidential.

We are interested in the types of activities that promote positive relations between young children and senior citizens. Should you have any questions about this research, please do not hesitate to contact Margaret Patten 848-2020 or 938-0868 or Bette Chambers at 848-2020.

We would appreciate if you would sign and return the form below. Thank you for your cooperation.

Sincerely,

Margaret H. Patten  
Graduate Student  
Master of Arts (Child Study)

Bette Chambers  
Director, Specialization in  
Early Childhood Education

.....  
Child's Name: \_\_\_\_\_ Birth Date: \_\_\_\_\_

Name of Child Care Centre: \_\_\_\_\_

\_\_\_ I **do** give my permission for my child to participate in this research project.

\_\_\_ I **do not** give my permission for my child to participate in this research project.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Parent or Guardian

PLEASE RETURN THIS FORM TO THE DIRECTOR OF THE DAYCARE

September 1992

Dear Parents:

In the next few weeks your child will be participating in some cooperative activities as part of their regular daily program. These games are part of a research project investigating the interactions between young children and senior citizens. The games will begin during the week of October 5, 1992 and finish during the week of December 1, 1992.

During the week of September 28, 1992, children will be individually asked to play two games with Margaret Patten during the week of September 28, 1993. Children will be shown a variety of pictures and asked to several questions about young and older persons. Children will participate in a similar set of games again during the week of December 14, 1992. All responses will be kept confidential.

This research is being conducted by the Centre for the Study of Classroom Processes, Department of Education, Concordia University. We are interested in the types of activities that promote positive relations between young children and senior citizens. Should you have any questions about this research, please do not hesitate to contact Margaret Patten 848-2020 or 938-0868 or Bette Chambers at 848-2020.

We would appreciate if you would sign and return the form below. Thank you for your cooperation.

Sincerely,

Margaret H. Patten  
Graduate Student  
Master of Arts (Child Study)

Bette Chambers  
Director, Specialization in  
Early Childhood Education

.....  
Child's Name: \_\_\_\_\_ Birth Date: \_\_\_\_\_

Name of Child Care Centre: \_\_\_\_\_

\_\_\_ I **do** give my permission for my child to participate in this research project.

\_\_\_ I **do not** give my permission for my child to participate in this research project.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Parent or Guardian

PLEASE RETURN THIS FORM TO THE DIRECTOR OF THE DAYCARE



September 1992

Dear Parents:

In the next few weeks your child will be participating in some cooperative activities as part of their regular daily program. Pairs of senior women volunteers will be visiting the class twice a week to play these games. These games are part of a research project investigating the interactions between young children and senior citizens. The games will begin during the week of October 5, 1992 and finish during the week of December 1, 1992.

During the week of September 28, 1992, children will be individually asked to play two games with Margaret Patten during the week of September 28, 1993. Children will be shown a variety of pictures and asked to several questions about young and older persons. Children will participate in a similar set of games again during the week of December 14, 1992. All responses will be kept confidential.

This research is being conducted by the Centre for the Study of Classroom Processes, Department of Education, Concordia University. We are interested in the types of activities that promote positive relations between young children and senior citizens. Should you have any questions about this research, please do not hesitate to contact Margaret Patten 848-2020 or 938-0868 or Bette Chambers at 848-2020.

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Sincerely,

Margaret H. Patten  
Graduate Student  
Master of Arts (Child Study)

Bette Chambers  
Director, Specialization in  
Early Childhood Education

.....

Child's Name: \_\_\_\_\_ Birth Date: \_\_\_\_\_

Name of Child Care Centre: \_\_\_\_\_

\_\_\_\_ I **do** give my permission for my child to participate in this research project.

\_\_\_\_ I **do not** give my permission for my child to participate in this research project.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Parent or Guardian

PLEASE RETURN THIS FORM TO THE DIRECTOR OF THE DAYCARE

September 1992

Dear Parents:

In the next few weeks pairs of senior women volunteers will be visiting the class twice a week to play with the children during freeplay. These games are part of a research project investigating the interactions between young children and senior citizens. The games will begin during the week of October 5, 1992 and finish during the week of December 1, 1992.

During the week of September 28, 1992, children will be individually asked to play two games with Margaret Patten during the week of September 28, 1993. Children will be shown a variety of pictures and asked to several questions about young and older persons. Children will participate in a similar set of games again during the week of December 14, 1992. All responses will be kept confidential.

This research is being conducted by the Centre for the Study of Classroom Processes, Department of Education, Concordia University. We are interested in the types of activities that promote positive relations between young children and senior citizens. Should you have any questions about this research, please do not hesitate to contact Margaret Patten 848-2020 or 938-0868 or Bette Chambers at 848-2020.

We would appreciate if you would sign and return the form below. Thank you for your cooperation.

Sincerely,

Margaret H. Patten  
Graduate Student  
Master of Arts (Child Study)

Bette Chambers  
Director, Specialization in  
Early Childhood Education

.....  
Child's Name: \_\_\_\_\_

Birth Date: \_\_\_\_\_

Name of Child Care Centre: \_\_\_\_\_

\_\_\_\_ I **do** give my permission for my child to participate in this research project.

\_\_\_\_ I **do not** give my permission for my child to participate in this research project.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Parent or Guardian

PLEASE RETURN THIS FORM TO THE DIRECTOR OF THE DAYCARE

Appendix B

Sample of Cooperative Activities

## Cooperative Visits - Day 4

### 1 Cooperative Colouring

**Objectives:** To work together to draw a picture.  
To share materials.

**Group Size:** 2

**Materials:** For each pair: 1 crayon  
1 piece of paper  
Music

**Procedure:**

- a. Holding on to the crayon at the same time, the children are to draw a picture. Encourage the children to talk about what they would like to draw together, both before they draw and while they are drawing. The drawing can be of any type, e.g., picture, design.
- b. Play the music while the children are drawing.

**Reflection:** How did the children decide what they were going to draw together? Did they find that talking helped them to work together? Did they try to draw to the music?

### 2. Ghost

**Objectives:** To develop gross motor skills.  
To coordinate movements as a group  
To practise problem solving.

**Group Size:** 4

**Materials:** For each group: A large sheet or other piece of fabric  
(sheer curtains work very well)

**Procedure:**

- a. Give each group a sheet. The children must try to work together as a group to move from one area of the room to another
- b. As children become skilled at moving as a group - try larger numbers of children in the group.

**Reflection:** Was it scary being under the sheet? Could you see through the sheet? Were you pretending to be something or someone while you were under the sheet? How did the group decide where and when to move?

### 3. Cooperative Musical Chairs

- Objectives:** To enhance listening skills.  
To develop gross motor skills.  
To share chairs.
- Group Size:** 6 - 10
- Materials:** For each child: 1 chairs  
Music

- Procedure.**
- a. In this game you eliminate chairs but not players. Players share their chairs and sit on each other's knees until everyone is sitting on one (or two) chairs.
  - b. Play the music as children dance or walk around the chairs. When the music stops everyone sits, when necessary on each others' laps.
  - c. A chair is then removed. The music resumes.
  - d. Continue until one - three chairs remain.

**Reflection:** How many children were able to fit on each chair? Was it hard to sit on each others lap? Talk about how everyone wins when you share the chairs.

**Note:** It may be helpful to practise being close to one another on a chair so as to avoid people getting squished or hurt.

### 8. Will You Be a Friend of Mine

<b>Objectives:</b>	To take turns. To learn a new song. To ask other sto participate.
<b>Group Size:</b>	All
<b>Materials:</b>	None

**Procedure:** a. Children are sitting in a circle. One child skips (or walks) around the circle while everyone sings (to the tune of the Muffin Man):

Oh, will you be a friend of mine,  
a friend of mine, a friend of mine.  
Oh, will you be a friend of mine,  
And skip (or walk, dance, jump, etc.) with me?

(The child chooses a friend and then they hold hands and skip around the circle together while everyone sings):

Oh yes, I'll be a friend of yours,  
a friend of yours, a friend of yours,  
Oh yes, I'll be a friend of yours,  
And skip (or walk, dance, jump, etc.) with you.

b. The first child then sits down and the second child skips around and chooses a child who has not yet had a turn.

c. Continue until everyone has had a turn to choose a friend. Encourage everyone in the group to help keep track of who has and who hasn't had a turn.

**Reflection:** Talk about taking turns, how important it is, what happens if you don't wait for your turn, and when you do wait patiently you get a turn faster. Talk about how it felt to be chosen as someone's friend. Was it difficult to wait for your turn?

Appendix C

Certificate of Participation Given to Senior Volunteers

# *In Appreciation*

To

for your participation in the  
Concordia University Intergenerational Program,  
September - December 1992.

We could not have done it without you.

December 11, 1992

---

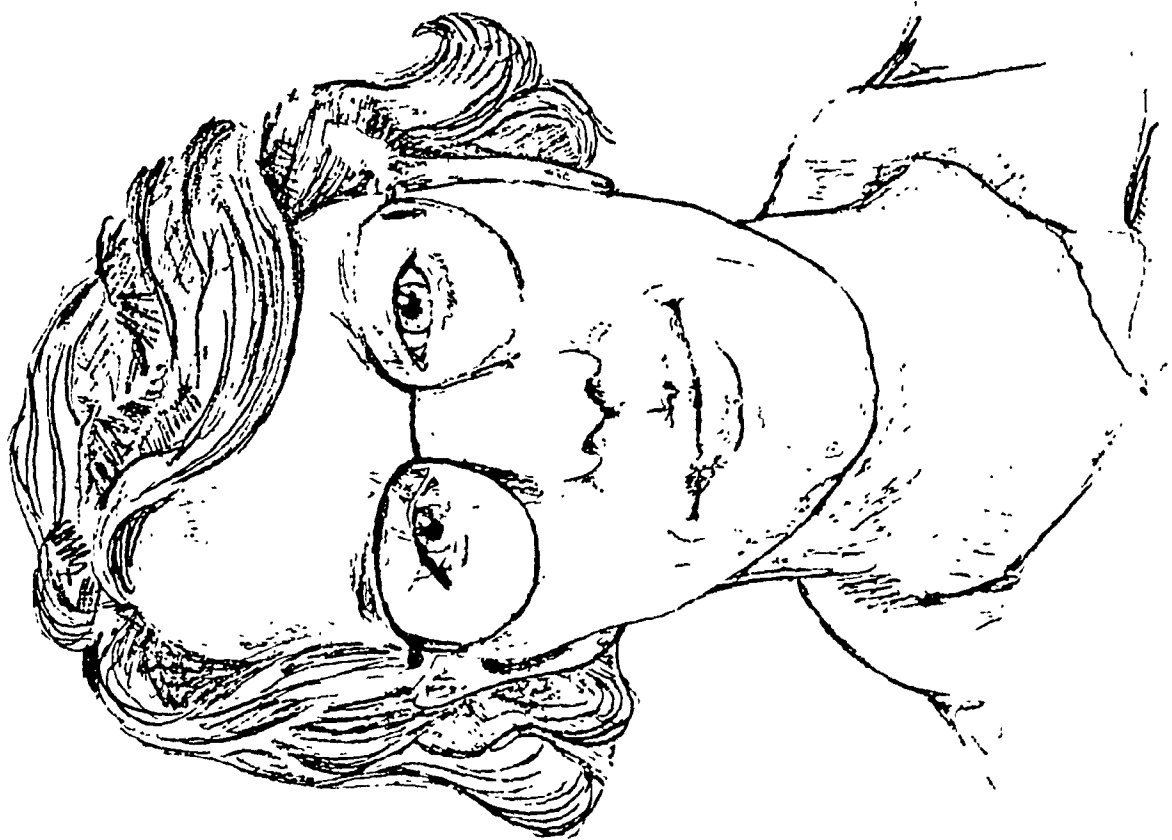
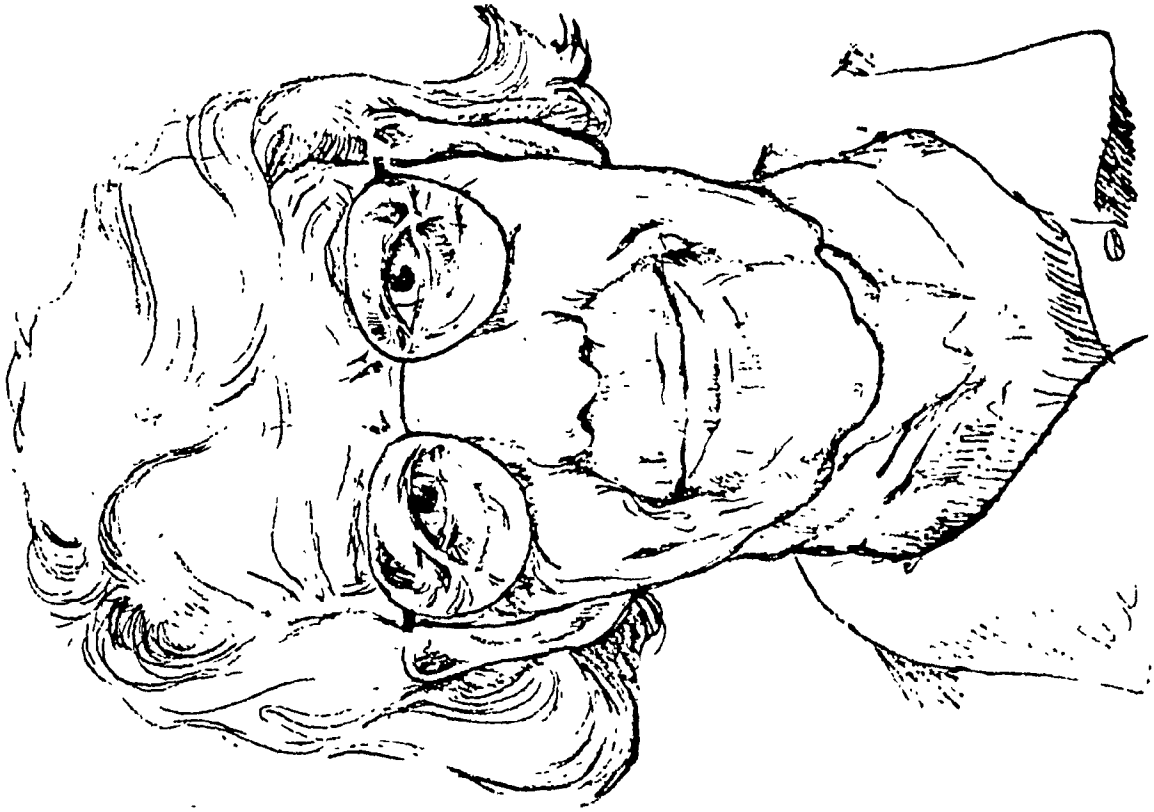
Margaret H. Patten  
Concordia University  
Intergenerational Program



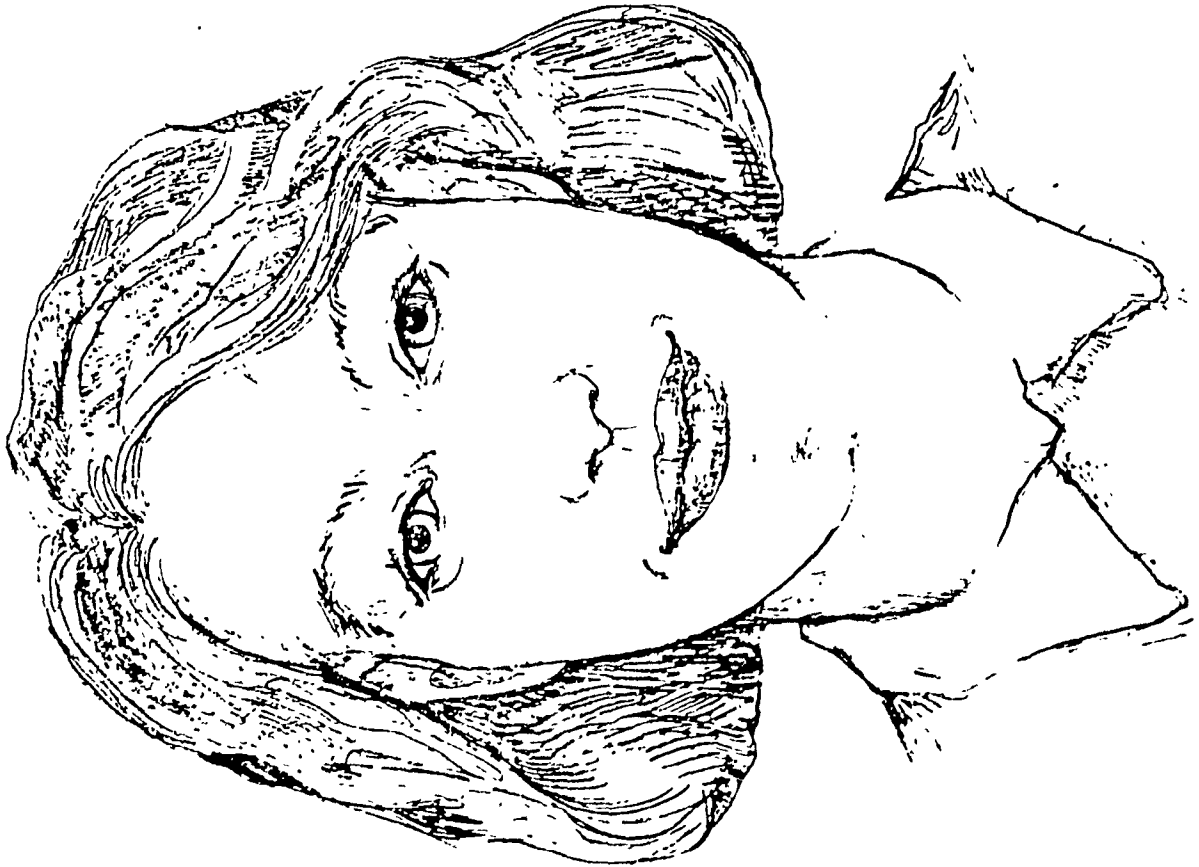
## Appendix D

Pictures Used for the Adapted CATE (Jantz et al. , 1976)

and the Sociometric Task







## Appendix E

### Semantic-Differential Adjective Pairs Found in the Literature

## 1. Caspi (1984)

Subjects were 3-6 years old

- friendly unfriendly
- happy sad
- kind mean
- healthy sick
- fast slow
- brave cowardly
- strong weak
- popular lonely
- generous selfish

## 2. Davis &amp; Westbrook (1981)

Subjects were in the 5th grade

Used 9 items from the Children's Attitudes Toward the Elderly (Jantz et al., 1976), deleted wonderful terrible, and added:

- fast slow
- wise foolish
- active inactive
- disrespectful respects others
- interesting boring

## 3. Fillmer (1984, 1982)

Subjects were children in grades 1 - 4

sick healthy  
ugly pretty  
rich poor  
happy sad  
friendly unfriendly

## 4. Jantz et al. (1976). Children's Attitudes Toward the Elderly

Subjects were 3 - 11 years of age

- good bad
- happy sad
- healthy sick
- pretty ugly
- friendly unfriendly
- right wrong
- wonderful terrible
- clean dirty
- rich poor
- helpful harmful

5. Marks, Newman, Onawola (1985)  
Subjects were 8 - 10 years of age

- good bad
- happy sad
- fast slow
- pretty ugly
- pleasant unpleasant
- clean dirty
- kind cruel
- wise foolish
- loved hated
- strong weak
- exciting dull

6. Thomas and Yamamoto (1975)  
Subjects in grades 6, 8, 10, 12

- good bad
- happy sad
- fast slow
- wise foolish
- pleasant unpleasant
- exciting dull
- strong weak
- moving still
- rugged delicate
- active inactive
- powerful powerless
- first last

## Appendix F

### Questions used in Sociometric Tasks Found in the Literature



## 1. Burke (1982)

Subjects were prekindergarten, kindergarten and 1st grade children

- Who's busy?
- Who's nice?
- Who's sad?
- Who's lonely?
- Who knows a lot?
- Who makes children do things?
- Who would you like to stay with you?
- Who's happy?
- Who helps you a lot?
- Who has a lot of free time?
- Who gives you treats?
- Whom would you like for your teacher?
- Who's fun?

## 2. Fillmer, (1982)

Subjects were in grades 4, 5 and 6

- If you saw this person on the street would you say hello to him/her?
- Would you like this person to be your friend?
- Would you like this person to sit next to you on the bus?
- Would you like this person to watch you play?
- Would you like this person to help your teacher?

## 3. Miller, Blalock, &amp; Ginsburg (1984)

Subjects were 3 - 6 years of age

- Which person are you most likely to play with ?
- Which person would buy you the best gift?
- Which person could run the fastest?
- Which person looks the best?
- Let's pretend you are lost in a store. Which person would you go to for help?
- Let's pretend you are sick. Which person would you like to take care of you?

## 4. Weinberger (1979)

Subjects were 5 -7 years of age

Potential for social interaction questions:

- Who would you tell your biggest secret to?
- If you fell and hurt yourself, which of these people would you try to get help from?
- Which of these people would you choose to be your best friend?
- If you were lost, which of these people would you ask to help you find your way home?
- If all these people needed your help, which would you help first?

4. Weinberger (1979) continued

Stereotyping questions:

- Which of these people is the happiest
- Which of these people is has the most friends?
- Which of these people is sick most of the time?
- Which of these people is the smartest?
- Which of these people is the ugliest?

Appendix G

Stories for the Prosocial Behavior in Young Children Measure

(Dellmann-Jenkins et al. , 1991)

Part A

## Story #1

**Shopping (helping):** Once upon a time there was a little boy/girl (same sex as the child) who was in the grocery store shopping with his/her mommy. There was an older lady shopping at the same time. Just as they were walking by the older lady, she dropped her purse and all the money spilled out."

The child was then asked: "If you were this boy/girl, (indicating the young puppet) what would you do?".

## Story # 2

**Puzzle (cooperating) :** In this story, this little girl/boy (same sex as child) was in nursery school. This older lady was visiting the nursery school for the day.

The teacher said it was time to clean up all the toys before snack time.

Everyone must be finished cleaning up before anyone could have their Cheerios. The older lady was having trouble finishing up the puzzle -- but if two people worked on it, they could probably finish faster and be ready for snack.

The child was then asked: "If you were this boy/girl, (indicating the young puppet) what would you do?".

## Story #3

**Cheerios (Sharing):** Then it was time for snack, the teacher poured Cheerios for the child and the older lady. This child (indicate to the puppet) got this many Cheerios (large portion), while the older lady got only this many (a few in the bowl) because the box was almost empty. The older lady comments that she really likes Cheerios.

The child was then asked: "If you were this boy/girl, (indicating the young puppet) what would you do?".

Part B

## Story # 4

**Coat (Helping):** One day this little girl/boy (Indicate to the puppet) and this older lady were on a picnic in the park. It was about this time of year, and some of the days were getting a little colder. The older lady was looking and looking something - under the picnic tables, behind the trees, everywhere. What are you looking for the child asked? I can't find my jacket the older lady said. The child was then asked: "If you were this boy/girl, (indicating the young puppet) what would you do?".

## Story #5

**Leaves (Cooperating):** After lunch everyone at the picnic decided it would be fun to play baseball. The only problem was that the ball field was covered with leaves that had fallen from the trees. The older lady said, "I bet if we all worked together we could clean up this ball field in no time!". The child was then asked: "If you were this boy/girl, (indicating the young puppet) what would you do?".

## Story #6

**Fishing (Sharing):** After the ball game was over the little boy/girl decided to go fishing for a while. After a few minutes the older lady came along and sat down to watch. There were no other fishing poles around, but the older lady said, "Gee I really like to fish too." The child was then asked: "If you were this boy/girl, (indicating the young puppet) what would you do?".

Appendix H  
Pretest ANOVA Summary Statements

Pretest ANOVA Summary Tables  
 Semantic differential task adapted from the  
 Children's Attitudes Toward the Elderly measure (Jantz et al. , 1976)

Pretest total score for happy sad young pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	0.0589	0.0589	.0616	.8048
Within groups	70	66.9272	0.9561		
Total	71	66.9861			
<u>By implementer</u>					
Between groups	1	3.3964	3.3964	3.7387	.0575
Within groups	70	63.5897	0.9084		
Total	71	66.9861			

Pretest total score for happy sad old pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	3.5000	3.5000	3.5653	.0631
Within groups	70	68.7187	0.9817		
Total	71	72.2187			
<u>By implementer</u>					
Between groups	1	0.1838	0.1838	.1786	.6739
Within groups	70	72.0350	1.0291		
Total	71	72.2187			

Pretest total score for bad good young pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	1.1844	1.1844	1.1530	.2868
Within groups	66	67.8009	1.0273		
Total	67	68.9853			
<u>By implementer</u>					
Between groups	1	0.7063	0.7063	.6828	.4116
Within groups	66	68.2789	1.0345		
Total	67	68.9853			



Pretest total score for bad good old pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	0.5546	0.5546	.5472	.4621
Within groups	66	66.8906	1.0135		
Total	67	67.4451			
<u>By implementer</u>					
Between groups	1	0.0134	0.0134	.0131	.9093
Within groups	66	67.4318	1.0217		
Total	67	67.4451			

Pretest total score for friendly unfriendly young pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	14.1350	14.1350	11.1716	.0014
Within groups	63	79.7112	1.2653		
Total	64	93.8462			
<u>By implementer</u>					
Between groups	1	7.6393	7.6393	5.5828	.0212
Within groups	63	86.2069	1.3684		
Total	64	93.8462			

Pretest total score for friendly unfriendly old pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	3.3427	3.3427	2.9572	.0904
Within groups	63	71.2112	1.1303		
Total	64	74.5538			
<u>By implementer</u>					
Between groups	1	0.0213	0.0213	.0180	.8937
Within groups	63	74.5326	1.1831		
Total	64	74.5538			

Pretest total score for kind mean young pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	0.5403	0.5403	.6003	.4412
Within groups	66	59.4009	0.9000		
Total	67	59.9412			
<u>By implementer</u>					
Between groups	1	0.2114	0.2114	.2335	.6305
Within groups	66	59.7298	0.9050		
Total	67	59.9412			

Pretest total score for kind mean old pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	0.6162	0.6162	.5842	.4474
Within groups	66	69.6190	1.0548		
Total	67	70.2353			
<u>By implementer</u>					
Between groups	1	0.0528	0.0528	.0497	.8243
Within groups	66	70.1825	1.0634		
Total	67	70.2353			

Pretest total score for sick healthy young pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	0.0139	0.0139	.0119	.9135
Within groups	66	76.9714	1.1662		
Total	67	76.9853			
<u>By implementer</u>					
Between groups	1	0.1449	0.1449	.1245	.7253
Within groups	66	76.8404	1.1642		
Total	67	76.9853			

Pretest total score for sick healthy old pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	10.0853	10.0853	8.3848	.0051
Within groups	66	79.3853	1.2028		
Total	67	89.4706			
<u>By implementer</u>					
Between groups	1	2.6355	2.6355	2.0031	.1617
Within groups	66	86.8351	1.3157		
Total	67	89.4706			

Pretest total score for fast slow young pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	2.1213	2.1213	2.2990	.1342
Within groups	67	61.8207	0.9227		
Total	68	63.9420			
<u>By implementer</u>					
Between groups	1	1.5244	1.5244	1.6363	.2052
Within groups	67	62.4177	0.9316		
Total	68	63.9420			

Pretest total score for fast slow old pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	0.0027	0.0027	.0024	.9611
Within groups	67	76.5480	1.1425	1.1425	
Total	68	76.5507			
<u>By implementer</u>					
Between groups	1	0.2731	0.2731	.2399	.6259
Within groups	67	76.2776	1.1385		
Total	68	76.5507			

Pretest total score for pretty ugly young pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	0.5380	0.5380	.5194	.4736
Within groups	67	69.4040	1.0359		
Total	68	69.9420			
<u>By implementer</u>					
Between groups	1	2.9539	2.9539	2.9544	.0903
Within groups	67	66.9881	0.9998		
Total	68	69.9420			

Pretest total score for pretty ugly old pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	0.6342	0.6342	.5504	.4607
Within groups	67	77.1919	1.1521		
Total	68	77.8261			
<u>By implementer</u>					
Between groups	1	0.2446	0.2446	.2112	.6473
Within groups	67	77.5815	1.1579		
Total	68	77.8261			

## Sociometric Questions

Pretest total score for 'play with' young pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	1.2490	1.2490	1.2313	.2710
Within groups	69	69.9905	1.0144		
Total	70	71.2394			
<u>By implementer</u>					
Between groups	1	.0976	0.0976	.0947	.7592
Within groups	69	71.1418	1.0310		
Total	70	71.2394			

Pretest total score for 'play with' old pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	2.0128	2.0128	1.8721	.1757
Within groups	69	74.1844	1.0751		
Total	70	76.1972			
<u>By implementer</u>					
Between groups	1	0.0914	0.0914	.0829	.7743
Within groups	69	76.1058	1.1030		
Total	70	76.7972			

Pretest total score for 'if lost' young pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	2.2571	2.2571	2.1241	.1495
Within groups	69	73.3203	1.0626		
Total	70	75.5775			
<u>By implementer</u>					
Between groups	1	2.6748	2.6748	2.5316	.1162
Within groups	69	72.9027	1.0566		
Total	70	75.5775			

Pretest total score for 'if lost' old pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	0.0007	0.0007	.0010	.9753
Within groups	69	51.1542	0.7414		
Total	70	51.1549			
<u>By implementer</u>					
Between groups	1	0.3479	0.3497	4.725	.4941
Within groups	69	50.8070	0.7363		
Total	70	51.1549			



Pretest total score for 'free time' young pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	0.0904	0.0904	.0862	.7699
Within groups	68	71.2810	1.0483		
Total	69	71.3714			
<u>By implementer</u>					
Between groups	1	0.9132	0.9132	.8813	.3512
Within groups	68	70.4582	1.0362		
Total	69	71.3714			

Pretest total score for 'free time' old pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	1.2101	1.2101	.8263	.3666
Within groups	68	99.5899	1.4646		
Total	69	100.800			
<u>By implementer</u>					
Between groups	1	1.8157	1.8157	1.2474	.2680
Within groups	68	98.9843	1.4557		
Total	69	100.800			

Pretest total score for 'help teacher' young pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	1.3831	1.3831	1.4731	.2291
Within groups	67	62.9067	0.9389		
Total	68	64.2899			
<u>By implementer</u>					
Between groups	1	0.0247	0.0247	.0258	.8730
Within groups	67	64.2652	0.9592		
Total	68	64.2899			

Pretest total score for 'help teacher' old pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	2.3458	2.3458	2.0235	.1595
Within groups	67	77.0076	1.1494		
Total	68	79.3333			
<u>By implementer</u>					
Between groups	1	0.0000	0.0000	.0000	1.000
Within groups	67	79.3333	1.1841		
Total	68	79.3333			

Pretest total score for 'be a friend' young pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	5.9167	5.9167	5.6250	.0205
Within groups	68	71.5261	1.0519		
Total	69	77.4429			
<u>By implementer</u>					
Between groups	1	1.1731	1.1737	1.0459	.3101
Within groups	68	76.2697	1.1216		
Total	69	77.4429			

Pretest total score for 'be a friend' old pictures

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	3.3033	3.3033	3.0562	.0849
Within groups	68	73.4967	1.0808		
Total	69	76.8000			
<u>By implementer</u>					
Between groups	1	0.0829	0.0829	.0735	.7872
Within groups	68	76.7171	1.1282		
Total	69	76.8000			

Prosocial Behavior in Young Children (Dellmann-Jenkins et al. , 1991)

Source of Variation	DF	Sum of Squares	Mean Squares	F Ratio	Sig of F
<u>By structure</u>					
Between groups	1	9.7656	9.7656	.4125	.5231
Within groups	62	1467.9687	23.6769		
Total	63	1477.7344			
<u>By implementer</u>					
Between groups	1	39.6556	39.6556	1.7097	.1959
Within groups	62	1438.0788	23.1948		
Total	63	1477.7344			

Appendix I  
Posttest ANOVA Summary Statements

Semantic differential task adapted from  
the Children's Attitudes Toward the Elderly scale (Jantz et al. , 1976)

Difference score happy sad posttest

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Structure	0.933	1	0.933	1.140	.290
Implementer	0.557	1	0.557	.678	.413
Struct by implem	0.140	1	0.140	.170	.681
Residual	55.836	68	0.821		

Difference score bad good posttest

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Structure	4.921	1	4.921	3.361	.071
Implementer	0.913	1	0.931	.623	.433
Struct by implem	0.013	1	0.013	.009	.925
Residual	93.696	64	1.464		

Difference score friendly unfriendly posttest with pretest as a covariate

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Covariate	0.777	1	0.777	.709	.403
Structure	5.666	1	5.666	5.168	.027
Implementer	5.656	1	5.656	5.159	.027
Struct by implem	2.283	1	2.283	2.082	.154
Residual	65.782	60	1.096		

Difference score kind mean posttest

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Structure	0.074	1	0.074	.052	.820
Implementer	0.797	1	0.790	.564	.455
Struct by implem	1.429	1	1.429	1.012	.318
Residual	90.416	64	1.413		

Difference score sick healthy posttest with pretest score as a covariate

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Covariate	38.212	1	38.212	26.786	.000
Structure	0.008	1	0.008	.006	.940
Implementer	9.760	1	9.760	6.842	.011
Struct by implem	3.469	1	3.469	2.431	.124
Residual	89.874	63	1.427		

Difference score fast slow posttest

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Structure	9.801	1	9.801	4.247	.043
Implementer	1.679	1	1.679	.727	.397
Struct by implem	9.954	1	9.954	4.313	.042
Residual	150.027	65	2.208		



Difference score pretty ugly posttest

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Structure	0.155	1	0.155	.089	.767
Implementer	2.621	1	2.621	1.505	.224
Struct by implem	1.127	1	1.127	.647	.424
Residual	113.244	65	1.742		

## Sociometric Questions

Difference score 'play with' posttest

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Structure	4.816	1	4.816	4.927	.030
Implementer	10.626	1	10.626	10.871	.002
Struct by implem	5.314	1	5.314	5.437	.023
Residual	65.488	67	0.977		

Difference score 'if lost' posttest

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Structure	0.300	1	0.300	.336	.564
Implementer	15.640	1	15.640	17.540	.000
Struct by implem	1.386	1	1.386	1.554	.217
Residual	58.849	66	0.892		

Difference score 'free time' posttest

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Structure	0.008	1	0.008	.005	.942
Implementer	12.533	1	12.533	8.412	.005
Struct by implem	4.267	1	4.267	2.864	.095
Residual	98.333	66	1.490		

Difference score 'help teacher' posttest

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Structure	5.882	1	5.882	6.361	.014
Implementer	11.376	1	11.376	12.308	.001
Struct by implem	4.354	1	4.354	4.711	.034
Residual	59.153	64	0.924		

Difference score 'be a friend' posttest with pretest as a covariate

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Covariate	2.373	1	2.373	3.132	.081
Structure	2.866	1	2.866	3.783	.056
Implementer	20.304	1	20.304	26.797	.000
Struct by implem	8.524	1	8.524	11.251	.001
Residual	49.249	65	0.758		

## ANOVA Summary Tables

Prosocial Behavior in Young Children (Dellmann-Jenkins et al. , 1991)

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Structure	40.218	1	40.218	2.200	.143
Implementer	525.542	1	525.542	28.748	.000
Struct by implem	4.927	1	4.927	.270	.060
Residual	1096.874	60	18.281		