

INFORMATION TO USERS

This was produced from a copy of a document sent to us for microfilming. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the material submitted.

The following explanation of techniques is provided to help you understand markings or notations which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting through an image and duplicating adjacent pages to assure you of complete continuity.
2. When an image on the film is obliterated with a round black mark it is an indication that the film inspector noticed either blurred copy because of movement during exposure, or duplicate copy. Unless we meant to delete copyrighted materials that should not have been filmed, you will find a good image of the page in the adjacent frame. If copyrighted materials were deleted you will find a target note listing the pages in the adjacent frame.
3. When a map, drawing or chart, etc., is part of the material being photographed the photographer has followed a definite method in "sectioning" the material. It is customary to begin filming at the upper left hand corner of a large sheet and to continue from left to right in equal sections with small overlaps. If necessary, sectioning is continued again—beginning below the first row and continuing on until complete.
4. For any illustrations that cannot be reproduced satisfactorily by xerography, photographic prints can be purchased at additional cost and tipped into your xerographic copy. Requests can be made to our Dissertations Customer Services Department.
5. Some pages in any document may have indistinct print. In all cases we have filmed the best available copy.

University
Microfilms
International

300 N. ZEEB RD., ANN ARBOR, MI 48106

8212196

Isaacs, Leora W.

THE DEVELOPMENT OF CHILDREN'S ATTITUDES TOWARD THE AGED

City University of New York

Ph.D. 1982

**University
Microfilms
International**

300 N. Zeeb Road, Ann Arbor, MI 48106

Copyright 1982

by

Isaacs, Leora W.

All Rights Reserved

THE DEVELOPMENT OF CHILDREN'S ATTITUDES TOWARD THE AGED

by

LEORA W. ISAACS

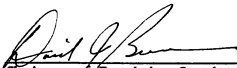
A dissertation submitted to the Graduate Faculty
in Educational Psychology in partial fulfillment
of the requirements for the degree of Doctor of
Philosophy, The City University of New York.

1982

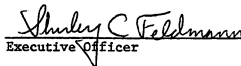
© COPYRIGHT BY
LEORA W. ISAAC
1982

This manuscript has been read and accepted for the Graduate Faculty in Educational Psychology in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

December 4, 1981
date


Chairman of Examining Committee

January 11, 1982
date


Executive Officer

Geoffrey Saxe, Ph.D.

Sue Rosenberg Zalk, Ph.D.

Ken Carlson, Ph. D.

Lillian Troll, Ph. D.
Supervisory Committee

The City University of New York

Abstract

THE DEVELOPMENT OF CHILDREN'S ATTITUDES

TOWARD THE AGED

by

Leora W. Isaacs

Adviser: Professor David J. Bearison

The present study sought to determine whether young children already hold and demonstrate the negative stereotypes and attitudes common among older children, adolescents and adults. Typically, old people are perceived as socially, psychologically and physically isolated, restricted and deteriorated. Although research on the presence of negative attitudes toward other target groups has shown that attitude formation is begun by the preschool years, there have been few studies of young children's attitudes toward the aged.

Studies of agist attitude have relied largely on responses to attitude scales, story-writing techniques and survey questionnaires. Given the evidence that actual behavior does not always correspond to espoused attitude it is unclear how children's agist attitudes affect their actual interpersonal behavior with old people.

Not all people develop negative agist attitudes. Several variables have been suggested as contributing factors in the development of intergroup

attitudes, including the amount and nature of contact with target group members and the level of cognitive development of the subject.

In the present study, the development of agist attitudes, as reflected in children's responses to an attitudinal scale as well as in their actual behaviors in interactions with old people was studied. Both the effects of children's level of cognitive development and the frequency and nature of their contact with old people were related to their agist attitudes.

The Social Attitude Scale of Agist Prejudice (SASAP) was constructed, validated and employed to measure children's agist attitudes. In completing the SASAP, children were shown pairs of photographs of non-aged and aged adults and were asked to select the one they regarded as the recipient of either positive or negative social events.

Subjects were 144 four, six and eight year old middle-class Caucasian children. Subjects were seen individually, once to complete the SASAP and once to complete the behavioral measures and the classic Piagetian number conservation task. During the behavioral task, children worked with either an aged or non-aged male or female adult on completion of a puzzle, as measures of proxemic distance, productivity, verbal interaction and eye contact initiation were recorded. Data concerning the actual frequency and nature of children's contact with old people was collected in telephone interviews with their mothers.

Results indicated that, when the scores of all subjects were pooled, significant levels of agist prejudice were demonstrated in children's responses to the SASAP. When considered by age group, although four year olds did not show significant levels of agist prejudice on the SASAP, they placed more social distance between themselves and aged adults than non-aged adults. By ages six and eight, children began to demonstrate negative beliefs and feelings about the aged on the SASAP as well as to socially distance themselves

more from aged adults than non-aged adults. Eight year olds showed more elaboration of beliefs and greater agreement between attitudes and behaviors.

The results of both the SASAP and behavioral measures indicated that women were more susceptible to the devaluation accompanying old age than were men. Also, although the aged were evaluated negatively regarding their abilities, the negative personality characteristics attributed to them seemed more important in eliciting agist prejudice.

Children's SASAP scores correlated significantly with scores on some behavioral measures (proxemic distance, eye contact initiation), but children's expressed attitudes and behaviors were not always consistent. When they differed, children were more likely to express negative attitudes indirectly in their responses to the SASAP than in face-to-face contact.

Present results suggested that although level of cognitive development may be important in determining how children form concepts about the aged and other groups, the frequency and nature of their experience with aged individuals plays an important role in predicting what those attitudes will be.

Acknowledgements

This research would have been impossible without the help, encouragement and guidance of many people. I am sincerely grateful to each of them for their support.

I have been privileged to have had Dr. David Bearison serve as my adviser and mentor for this research and throughout my graduate studies. His consistently high expectations and standards of excellence have always motivated and challenged me. His great knowledge, exceptional analytic skills and clear style of expression have made him a major role model in my academic career and have molded my development as a researcher and my interest in the area of social cognition.

I am particularly grateful to Dr. Geoffrey Saxe, both for his perceptive assistance in clarifying important conceptual issues in this research as well as for assuming the role of my acting adviser at the end of this project. His warm encouragement was greatly appreciated.

I wish to thank Dr. Sue Rosenberg Zalk for her constructive comments. Her unwavering enthusiasm, encouragement and belief in the value of this study bolstered my confidence in both the study and myself.

I thank Dr. Ken Carlson and Dr. Lillian Troll for serving as outside readers. Their critical comments strengthened this report. Their promptness and wholehearted concern expedited the defense of this dissertation.

Many individuals supported, participated and assisted in this research. I thank them all profoundly for their time and effort in my behalf. They are: Suzanne Adelson-Wainer, Mary Cybert, Meyer Sturm, Ron Isaacs, Eri Weinstein, Mitchell Wainer, Rick Babacqua, Mario Tapia, Barbara Shotlander, Harriet Levy, Janet Dondershine, Debra Frimmer, Sue Schumer, Ron Slosberg.

the faculties and staffs of Christ the King School, Hamilton School, Crim School, Somerset County Day Care Center, the Preschool Place, Creative Playschool, Somerset County Office on Aging, and all the children and parents who participated in the research project.

I wish to thank Alice Eisenberg for her expedient and expert typing of the manuscript, and her extreme patience with me and my revisions.

Most importantly, I am grateful to my family who have been the inspiration and major support for this work. I thank my parents, brother and grandmother Esther who have inspired me to set high goals not only in areas of scholarship, but also to strive for excellence and righteousness in all life's tasks. I am grateful to my husband, Ron, who is always my chief "booster". Particularly during the years of this project he has been my true complement, assuming many of my responsibilities and always enthusiastically supporting me. I thank our daughter Keren for cooperating while I worked, enduring my temporary lacks of attentiveness and expressing pride in me even though she didn't understand what I was doing and would have preferred more time together. With greatest love and appreciation I dedicate this dissertation to them.

The prosperity of a country
is in accordance with its
treatment of the aged.

The Bratslaver Rebbe

TABLE OF CONTENTS

	Page
Abstract	iv
Acknowledgments	vii
Table of Contents	x
List of Tables	xiii
List of Figures	xv
Chapter I Introduction	1
Overview	1
Self-Image and Attitudes Toward Aging Among the Elderly	2
Attitudes Toward Aging and the Aged Among Adults	6
Perceived Role Models of Aging	9
Attitudes of Children Toward Aging and the Aged	11
Children's Social Attitude Development	14
Concepts of Age	17
Chapter 2 Rationale and Hypotheses	20
Methodological Issues	22
Age of Subjects	22
Age of Adult Cohorts	23
Dependent Measures	24
SASAP	24
Behavioral Measures	25
Cognitive Precursors	27
Demographic Variables	29
Hypotheses	29
Chapter 3 Pilot Studies	33
Pilot Study I: Photograph Reliability	33
Subjects	33
Materials	33
Method	34
Scoring	34
Results	34
Pilot Study II: Question Validation	34
Subjects	35
Method	35
Scoring	36
Results	36
Pilot Study III: Split-Half Reliability and Item Remainder Reliability	38
Subjects	38
Method	38
Scoring	40
Results	40

	Page
Chapter 4 Procedure	41
Method	41
Subjects	41
Measures	41
Social Attitude Scale of Agist Prejudice	41
Behavioral Measures of Social Attitudes	42
Proxemic distance	43
Productivity	44
Verbal interaction	44
Eye contact initiation	45
Children's statement of opinion	45
Conservation of number	45
Experience with the aged	46
Chapter 5 Results	47
Social Attitude Scale of Agist Prejudice	47
Behavioral Measures	60
Proxemic Distance	61
Productivity	65
Eye contact Initiation	65
Verbal Interaction Measures	68
Number of words spoken	71
Number of verbal initiations	71
Mean clause length	75
Number of appeals for assistance or verification	75
Correlations Among Measures of Children's Attitudes	
Toward the Aged	75
Correlations between behavioral measures	75
Correlations between SASAP scores and behavioral measures	79
Level of Cognitive Maturity (Conservation Task)	82
Children's Direct Judgments of Cohorts	83
Hiring of cohort	83
Cohort return	85
Correspondence between SASAP item and actual behavior	85
Frequency and Quality of Experience with Aged Individuals	90
Correlations Between Scores on Dependent Measures and Demographic Data	95
Findings for Proposed Hypotheses	97

	Page
Chapter 6 Discussion	102
Attitudes of Young Children Toward the Aged	102
Developmental Sequence for the Formation of Attitudes Toward the Aged	105
Relationship Between Affective, Cognitive and Behavioral Measures of Attitude Toward the Aged	112
Parallels Between Level of Cognitive Development and Agist Attitude Formation	117
Considerations About a General Model Relating Cognitive Maturity and Attitude Formation	119
Relationship Between Young Children's Attitudes Toward the Aged and Frequency and Quality of Contact with Old People	124
Conclusions	128
Applications and Implications	130
Appendices	131
Appendix A: Social Attitude Scale of Agist Prejudice (SASAP)	132
Appendix B: Parents' Questionnaire	139
Appendix C: Analysis of Variance Summary Tables	140
Social Attitude Scale of Agist Prejudice (SASAP) Scores	140
Proxemic Distance Scores	141
Productivity Scores	142
Eye contact initiation Scores	143
Number of Words Spoken	144
Number of Verbal Initiations	145
Mean Clause Length	146
Number of Appeals for Assistance or Verification	147
References	148

List of Tables

	Page
1. Mean Per cent and Standard Deviations of Prejudiced Responses on SASAP by Subject Age and Role in Question Validation Procedure.	37
2. Mean Per cent and Standard Deviations of Prejudiced Responses to the SASAP by Subject Age, Subject Sex and Sex of Target.	40
3. Mean Per cent Scores, Standard Deviations of Prejudiced Responses to SASAP by Subject Age and Focus of Question.	53
4. F Statistics for Four-Way Analyses of Variance for Some Behavioral Measures.	62
5. Means and Standard Deviations for Proxemic Distance Scores by Subject Age and Cohort Characteristics.	63
6. Means and Standard Deviations for Frequency of Eye Contact Initiation by Subject Age and Cohort Characteristics.	67
7. Means and Standard Deviations for Number of Words Spoken by Subjects by Subject Age and Cohort Characteristics.	72
8. Means and Standard Deviations for Frequency of Initiation of Conversation by Subject Age and Cohort Characteristics.	74
9. Means and Standard Deviations for Number of Appeals for Assistance or Verification by Subject Age and Cohort Characteristics.	76
10. Intercorrelation Matrix for Behavioral Measures.	77
11. Correlation Between SASAP Scores and Behavioral Measures by Age Group of Subject and Cohort.	80
12. Relationship Between Level of Cognitive Maturity and Evidence of Agist Attitude Formation Among Six Year Olds	84
13. Relationship Between Reason for Hiring and Age of Cohort.	86
14. Relationship Between Age of Cohort and Preference for Same or Different Cohort by Six and Eight Year Old Subjects.	87

	Page
15. Relationship Between Preference for Return of Same or Different Cohort and Response to Similar Question on the SASAP, by Subjects in the Experimental Group.	89
16. Frequency Distribution of Number of Contacts per Year Between Child and Prime Aged Adult.	91
17. Multiple Regression Results Predicting Score on SASAP and Ability and Personality Subtests From Frequency and Quality of Experience with Aged Individuals.	92
18. Correlations Between Dependent Variables and Demographic Data.	96

List of Figures

	Page
1. Mean per cent of prejudiced responses in the question validation pilot procedure as a function of subject age and assumed role.	35
2. Mean per cent of prejudiced responses to SASAP as a function of subject age and subject sex.	51
3. Mean per cent of prejudiced responses to SASAP as a function of sex of target photograph and type of attribute (ability or personality) evaluated by question.	53
4. Mean per cent of prejudiced responses to SASAP as a function of subject age and type of attribute (ability or personality) evaluated by question.	57
5. Mean per cent of prejudiced responses to SASAP as a function of subject age, sex of target photograph and type of attribute (ability or personality) evaluated by the question.	50
6. Mean distance (in inches) at which subjects seated themselves (proxemic distance) from cohorts as a function of cohort age and cohort sex.	64
7. Mean distance at which subjects seated themselves (proxemic distance) from cohorts as a function of cohort gender and subject sex.	66
8. Mean number of initiations of eye contact by subjects toward cohorts as a function of cohort age and subject age.	63
9. Mean number of initiations of eye contact by subjects toward cohorts as a function of cohort age and subject sex.	70
10. Mean number of words spoken by subjects to cohorts as a function of subject age and subject sex.	73

CHAPTER I

Introduction

Overview

One of the most significant and deep-rooted problems facing the elderly today is negative social attitude toward them. It constitutes a form of prejudice similar to racism and sexism in that negative attributes are attributed to old people because of their group identification to the exclusion of their individual abilities and achievements. The debilitating effects of agist prejudice are just beginning to be understood. Findings indicate that it not only contributes to a negative self-image among the elderly but that it is often responsible for severe depression and even death. Furthermore, the negative views toward aging among the aged reinforce the negative views that younger people have of the aged, thus breeding a vicious cycle of age prejudice.

While aging affords elevated social status to people in some countries, in the United States and other industrialized nations the elderly suffer from a loss of status, reduction in personal contacts, and a social climate which views aging with fear and distaste (Bringman and Reider, 1968). Findings have shown that an important feature of the social environment to which the elderly must adapt is the extent to which others invite or shun them, include or ignore them, support or attack them, reward or negatively sanction them (McTavish, 1971). Although it is estimated that by the year 2000 almost a quarter of the population will be 65 or older, the crucial people in the aging problem are not just the elderly, but younger age groups who determine the social status of the older

person and who themselves are being negatively socialized for their future old-age roles (Rosow, 1962). It is among these younger age groups that this cycle of prejudice can be broken.

The purpose of this research is to study the developmental origins of prejudice against the elderly and to prepare to test, at different developmental levels, how susceptible it is to positive social change. There is evidence of devaluation of the aged (prejudice) by all age groups; the aged, adults, adolescents and even children.

Self-Image and Attitudes Toward Aging Among the Elderly

Social psychological research has shown that the negative expectations of others are incorporated into one's self-image (Mead, 1934; Per, 1965; Kelly, 1967), and that negative self-concepts or feelings of incompetence lead to anxiety when acute and are severely incapacitating when chronic (Lefcourt, 1973; Seligman, 1975). There is substantial evidence that old people in the United States have both a negative self-image and a negative view of aging.

Mason (1954) compared the self-images of a community of institutionalized, middle-class adults over 55 to groups of lower-class young adults. He found that the old people had more negative views of themselves than the young people had of themselves. Wallach (1961) found that young adults rated the concepts of "myself" and "ideal person" more favorably than did older people, demonstrating lower positive self-regard in old age. Surveys have also indicated that elderly respondents tend to view old age in a negative way (Riegel and Riegel, 1960).

An indication of the status of a group is willingness of individuals to classify themselves as members. Tuckman and Lorge (1954) asked people between the ages of 20 and over 80 years to classify themselves as young, middle-aged or old. Only among people over 80 did a majority classify themselves as old. Similarly, Busse, Jeffers and Obrist (1959) studied retirees and volunteers from Golden Age Clubs who were over 60. They found that the older the person was, the more likely he was to think of himself as belonging to an old age group and being in poor health. To think of oneself as old does not necessarily reflect a negative self-image because it can be, after all, an accurate perception of oneself (Bennett and Eckman, 1973). However, several investigators (Jyrkila, 1960; Busse, 1968) found that old people who view themselves as old tend to be more maladjusted or sicker than those who view themselves as young. While thinking of oneself as old may not necessarily denote a negative self-image, denying that one is old denotes negative attitudes toward aging.

Recent findings have indicated that many of the negative features that people tend to associate with aging and the aged including failing health, loneliness, resistance to change and loss of control of significant events in their lives are not inevitable consequences of the aging process. Leaf (1973) examined individuals from three remote villages in which people often live to the age of 100 years or more in good physical and mental health, and found that along with genetic factors, physical activity and sense of usefulness and purpose in life were highly correlated with longevity. This relationship has also been suggested by Butler (1967). Edwards and Wine (1963) have shown that increased caution which correlates with aging (Botwinick, 1972; Kogan

and Wallach, 1961; Krugman, 1959) tends to disappear if nonverbal intelligence effects are partialled out. Actual pathology does not seem to be related as much to aging per se as to either diminished development earlier in life (Lowenthal, 1968) or failure to adjust adequately to psychological and sociological changes that accompany aging (Heilburn and Lair, 1964). Thus, the ability to sustain a sense of high self-regard and purpose in life is probably more influenced by societal factors than by the process of aging per se.

The immediate social environment in which old people find themselves affects their self-esteem and attitudes toward aging. For example, institutionalized old people have more negative views toward aging than matched subjects outside of institutions (Tuckman and Lorge, 1952; Mason, 1954). For many old people, particularly those who are institutionalized, there is a perceived loss of control accompanied by feelings of depression and helplessness.

There is considerable evidence documenting the debilitating effects of perceived loss of control. In one study, it was found that subjects were more anxious in situations when an experimenter controlled the application of shock than when they controlled the application of shock themselves, although the same amount of shock was administered in both conditions (Pervin, 1963). In another study it was found that by inducing the perception of control over stress in hospital patients, subjects requested fewer pain relievers and sedatives and were seen by nurses as evidencing less anxiety (Langer, Janis and Wolfer, 1974). Others have reported that the perception of control over an impending event, even though it is a non-veridical perception, reduces the aversiveness of that event (Bowers, 1968; Glass, Singer and Friedman, 1969; Kanfer and

Seidner, 1973).

According to Seligman (Seligman and Maier, 1967; Seligman, Maier and Geer, 1968; Seligman, 1975) the belief that one cannot influence the production of positive outcomes in life is a form of learned helplessness that is at the root of reactive depression. The depressed person is slow to initiate responses to overcome his helplessness because he perceives that any response is futile. According to Lefcourt (1973), "a sense of control, the illusion that one can exercise personal choice, has a definite and positive role in sustaining life."

Evidence linking the need for people to maintain a sense of control in their lives for their health and survival has been quite dramatic. McMahon and Rhudick (1964) found a relationship between depression and death, and Schmale (Adamson and Schmale, 1965; Schmale, 1958; Schmale and Iker, 1966), in a series of retrospective studies, found that ulcerative colitis, leukemia, cervical cancer, and heart disease were associated with feelings of helplessness and loss of hope experienced by the patient prior to the onset of the disease. The most dramatic evidence with regard to the aged, in particular, comes from a study by Ferrari (1962) in which it was found that among seventeen people who claimed to have no choice in choosing a place of residence but to move to a particular nursing home, eight died within four weeks of residence and a total of sixteen died within ten weeks of residence. By comparison, among the residents who claimed that they had freedom to choose other alternatives, only one died within the initial period. In each case, the deaths of these residents was without any warning.

There is also evidence that the negative effects of helplessness associated with aging can be reversed. Langer and Rodin (1975) conducted

a study of nursing home residents who had been randomly assigned to live on one of two floors of the home according to room availability upon arrival. Both floors had welfare, medicaid and private residents. Residents on one floor were designated as the "responsibility-induced group" and residents on the other floor, the "staff-supported group." The responsibility-induced group was encouraged to assert their self-control concerning living conditions while no direct encouragement was offered to the staff-supported group. It was found that residents in the responsibility-induced group were happier and more active at the close of the experimental phase than prior to it, while there were no changes in the staff-supported group. Nurses also rated the responsibility-induced group as becoming more alert, active, cheerful, interested in daily events and less dependent. Thus, the self-perceptions of the aged can be modified to lead to a greater sense of well-being.

Attitudes Toward Aging and the Aged Among Adults

It is not only the elderly who view old age as a period of loss and helplessness; adults also have negative attitudes toward aging and the aged. The earliest research on attitudes toward aging and the aged was conducted by Lorge and his associates (Tuckman and Lorge, 1953; Arnhoff and Lorge, 1960; Lorge, Tuckman and Abrams, 1954). They found that old people are expected to play a decreasingly active role in life and that these expectations are strongly associated with stereotyped ideas concerning old age. They found that both younger and older adults viewed old age as a period of economic insecurity, poor health, loneliness, resistance to change or rigidity, failing physical health, and loss of mental prowess. College students participated in a communication experiment

by Rubin and Brown (1975). They demonstrated their expectations that "older people" would have different cognitive and personality structures and would need to be treated like children instead of adults. Subjects "talked down" to presumed children and old people but gave more complex instructions to those targets they believed were adults of their own age or older. The existence of similar stereotypes regarding old age has been confirmed in studies by Golde and Kogan (1959), Kogan (1961), Zola (1962), Rosencranz and McNevin (1969), Seltzer and Atchley (1971), Naus (1973), Weinberger and Millham (1975), and Collette-Pratt (1976).

Although increased social contact with aged people in our culture might facilitate the development of positive affect toward them, unless their status is elevated or they are seen to function in highly valued roles, elderly people will continue to be devalued by adults in our society. In most cases, the depressed status of the aged is associated with their perceived lack of authority, their ineffectiveness in controlling events in their lives and their lack of independence (Harris, 1975; Bengtson, Kasschau and Ragan, 1977). Collette-Pratt (1976) found that college students as well as middle-aged adults devalued old age, citing such factors as loss of personal productivity, achievement and independence. Negative attitudes concerning death and declining health were the most significant predictors of old age devaluation.

One form of age stereotyping is age restrictiveness. Age limits are expressed for entry into or exit from particular roles or activities. For example, one can be considered either too young or too old to go to school, to hold certain jobs, to get married or to engage in specific kinds of recreation (Troll, 1972). Although adolescents on the whole have tended to be lowest of all age groups in expression of age restrictiveness, they have still tended to exaggerate older people's needs for dependency and nurturance

and to undervalue their potential ability and effectiveness (Sabatini and Nowak, 1975; Ahammer and Baltes, 1972).

Robertson (1976) studied the significance of grandparents for young adult grandchildren and found that although the grandchildren expressed positive affect toward their grandparents, indicating that they were not too old-fashioned and out-of-touch and that they would be missed when they died, they did not look upon their grandparents as companions, advisors, role-models, or liaisons between themselves and their parents. Similarly, Looft (1971) asked respondents of different ages (10 to 75 years) to name significant others acting as principal sources of knowledge about how to get along in the world. Parents and peers were ranked highest as informational transmitters; no mention was made of grandparents. On the basis of these findings one can speculate that the ideal solution would be for young people to be educated to realize the potential ability and effectiveness of old people in high status roles while helping the elderly to recognize their own efficacy and potency in these status roles.

Most findings of negative social attitudes toward the aged have been based on cross-sectional and/or descriptive survey types of research designs. They have used attitudinal scales rather than behavioral variables to derive dependent measures. For the most part, attitudes toward the aged have not been studied under controlled experimental conditions. This is a problem in light of evidence that the way in which individuals respond to attitude scales and survey questionnaires does not always reflect their actual behavior toward target groups. Studies by Weitz (1972), Kutner, Wilkins and Yarrow (1952), and LaPiere (1934), found poor association between scores on attitude scales and behavioral measures of social interaction. Several investigators have argued that prejudicial attitudes toward others are more easily expressed

in attitude scales than in actual behavior because the scales focus on the existence of prejudice, while such prejudice may be a secondary factor in determining actual behavior toward members of the target group (Porter, 1971). In one study (Weitz, 1972), the amount of racial prejudice revealed on an attitude scale was negatively correlated with prejudicial behavior toward blacks. Those who acted in the most prejudiced manner showed the least amount of racial prejudice on the attitude scale. Thus, there is a compelling need to employ both scaling and behavioral measures in studying the development of age prejudice and to discover antecedent variables that contribute to its development.

Perceived Role Models of Aging

There is evidence that the most compelling antecedent variables that correlate with negative attitudes toward the aged have to do with the absence of positive role models of aging. Maxwell and Silverman (1971) hypothesized that the principal factor governing the regard of old people in a society is the amount of useful information they are believed to possess. Cross-cultural studies have supported this hypothesis. In primitive societies, aged people are rare, so their experience and continued functions are accorded high esteem (Simmons, 1945). Cowgill (1968) also found that the status of old people is higher in cultures that are static, where the aged constitute a small percentage of the population, and where they have the opportunity to perform socially valued functions.

Studies have shown that where there are positive role models of aging, negative attitudes toward the elderly are less severe. According to Naus (1973) contact with the elderly and personal awareness of their abilities is related to others' attitudes toward them. Gordon (1970) found that older

role models can and do influence the attitudes that younger people have toward the aged as well as their own ideas about becoming old. Adults who lived in the same household with someone over 65 years had a more positive view of old people. Borges and Dutton (1976) reported that old people rated the quality of their lives more favorably than college students projected the quality of their lives will be at the same age. They suggested that such findings are a function of age segregation in our society. Young adults are not sufficiently aware of the rewards and satisfactions, abilities and accomplishments possible in old age. Rosencranz and McNevin (1969) found that college students who maintained close contacts with their own grandparents or other old people had more favorable attitudes toward the elderly than students who did not have such contacts. They concluded that "the amount and quality of contact with the aged will affect the valence of respondents' attitudes toward old people." It must be reiterated that although the frequency of contact with the aged is important, there is evidence that the quality of that contact may also be crucial.

If the quantity and quality of contact that people have with the elderly affects their attitudes toward them, the vicarious experiences that people have in regard to the aged and aging through the media can also be expected to play a critical role in the formation of attitudes about the aged. In our society, the media, including books, songs, television programs, newspapers, etc., are principal sources of information about what it is like being old. For the substantial proportion of people in our society who have little or no direct contact with the elderly, it is often the primary source of information. There are several studies that have shown that the elderly are not treated kindly nor accurately by the media; that negative stereotypes and low status role models prevail. Martel (1968) reported a significant decline

in the status of older people in magazine fiction. Articles suggested that old people are past their prime and "out of it." The scarcity of positive role models of the elderly in television programs has also been noted. Aronoff (1974) reported that only 4.9 per cent of the characters in prime time television are old. Furthermore, older people in television are associated with evil, failure and unhappiness. Northcott (1975) also reported that old people are very much under-represented by the television media. He found that only 1.5 per cent of all role portrayals were of old people. He also found that the roles of old people were peripheral to the major action of the plot and that old people usually served as contrasts to competent males or attractive females in the script. The findings regarding the portrayal of old people in television are paralleled in children's literature. Old people are portrayed as lacking control over their own lives. The characters of elderly individuals are poorly developed and peripheral to the plot (Seltzer and Atchley, 1971; Peterson and Karnes, 1976).

In sum, the media tends to treat the elderly as peripheral and relatively unimportant. For those who do not have actual contact with older people and for the aged themselves who are often socially isolated, these media messages about aging are received without the opportunity to test their validity.

Attitudes of Children Toward Aging and the Aged

While research on the presence of negative social attitudes toward other target groups, particularly blacks, has shown that attitude formation is begun by the preschool years, there have been few studies of young children's attitudes toward the aged. Most of the studies of children's attitudes toward the aged have been limited to the adolescent period. It is not known when young children first begin to manifest negative attitudes toward the aged or how these attitudes are initially expressed in behavior.

The common stereotypes and misconceptions about the aged found among adults are also prevalent among adolescents. Lorge, Tuckman and Abrams (1954) found that junior and senior high school students perceived adolescence as a period of activity and the twenties as a period of establishment, goal orientation, movement and activity. People in their sixties and seventies, however, were viewed as being in a period of inactivity, lack of interests and complete loss of adult roles. Kastenbaum and Durkee (1964) found that adolescents and young adults had a predominantly negative appraisal of old people. Old age was perceived as being risky, unpleasant, and lacking significant positive values. Kastenbaum and Durkee concluded that the "now-orientation" of young people precludes an extension of themselves into old age and that the adoption of negative attitudes among adolescents may impair their own functioning when they enter old age.

Several studies have shown that the negative attitudes that adolescents have of old people is susceptible to change. Labouvie-Vief and Baltes (1976) modified the perceptions that adolescent girls had of the elderly making them more consistent with self-descriptions of elderly people. Adolescent girls were asked to simulate on a personality questionnaire the responses of a typical (but hypothetical) elderly women before and after receiving discrepant feedback consisting of actual positive self-endorsements of elderly women. They found increased accuracy of perception among the subjects immediately after training and two weeks later. Others have suggested that increased contact between young and old people prior to adolescence would reduce long-range stereotyped perceptions of the aged (Lane, 1964; Bengtson, 1971; Ross and Freitag, 1976; Weinberger and Millham, 1975).

In one of the few studies of very young children's attitudes toward the aged (Hickey and Kalish, 1968), it was found that by eight years of age

children have developed negative views of the aged. A questionnaire was administered to third graders, junior high school students, high school students and college undergraduates. The respondents perceived clear age differences between adults who were 25, 45, 65 and 85 years old and the older the adult, the less pleasant was the image held by the children. In another study, Hickey, Hickey and Kalish (1968) presented third-graders with a story-writing task. Children portrayed aged adults as having ambulatory problems, being lonely, bored and inactive. Their descriptions were flat and unidimensional, involving few adjectives and descriptors. Old people were described as either being nice to little children or cruel and mean.

Thomas and Yamamoto (1975) studied attitudes toward young, middle-aged and old persons in 1000 six, eight, ten and twelve year old children. The children were shown three newspaper photos of young, middle-aged and old adults, and were asked to estimate the ages of the pictured adults, as well as to write stories about the photos in whatever order they preferred. The age estimates showed judgmental accuracy. The most preferred order of choice for writing stories was young, old, middle-aged. In most cases, the old person was depicted as a grandfatherly type. However, when Thomas and Yamamoto employed the semantic differential technique to evaluate the descriptions on the dimension of activity-potency, old people were evaluated negatively on that dimension. They were not perceived by subjects as being effective.

Jantz, Seefeldt, Galper and Serock (1976) developed an instrument called CATE (Children's Attitudes Toward the Elderly) which was designed to examine the cognitive, affective and behavioral components of attitudes of children between the ages of three and eleven years. Jantz and his

associates reported that at all age levels children apparently had limited knowledge of old people. Although most of their subjects were able to identify an elderly person within their family structure they couldn't identify non-related elderly persons. The children's attitudes toward growing old themselves were negative. They expressed distaste, sadness, regret and fear of growing old themselves. When asked what they could do with an older person children gave stereotyped responses and expressed a preference for being with and doing things with younger people. Children's attitudes toward the aged showed a mixture of positive feelings of affect and either stereotyped or negative attitudes regarding the physical aspects of age. For example, old people were described as rich, friendly, wonderful or good, but also sick, ugly and sad.

Children's Social Attitude Development

There is an extensive body of literature on the development of intergroup attitudes. It is generally agreed that the acquisition of such attitudes is gradual, continuous and the result of complex interactions between contributing factors. According to many theorists (e.g., M. Goodman) the emergence of intergroup attitudes is integrally related to the establishment of the child's self-identity. The child learns to classify himself according to the groups to which he does and does not belong. At the same time, positive and negative judgments are made concerning members of these groups. Goodman (1964) describes racial (and other intergroup) attitude development as occurring in three overlapping stages: (a) ethnic/racial awareness, (b) ethnic/racial orientation, (c) ethnic/racial attitude. In a later theoretical paper, Phyllis Katz (1971) contends that the three-stage conception of attitude acquisition is an oversimplification, and that the developmental

sequence consists of at least eight overlapping steps which span approximately ten years of the child's life. These include: (a) early observation of (racial) cues, (b) formation of rudimentary concepts, (c) conceptual differentiation, (d) recognition of the irrevocability of cues, (e) consolidation of group concepts, (f) perceptual elaboration, (g) cognitive elaboration, and (h) attitude crystalization.

It has been shown that by three or four years, young children are capable of making many distinctions between people. Children at this age are particularly adept at distinguishing between genders and races, and these distinctions are already accompanied by positive and negative valences (e.g., Goodman, 1964; Stevenson and Stewart, 1958; Porter, 1971; Gaines, 1971).

Empirical evidence (summarized by Proshansky, 1966) suggests that racial awareness begins to take place during the nursery school years, increases rapidly in the next few years and is more or less firmly established by the time children enter school (e.g., Clarke and Clarke, 1947; Goodman, 1964; Stevenson, 1960). There is also evidence that the development of ethnic, religious and national group distinctions (although occurring slightly later) roughly parallel the development of racial distinctions, even though the distinguishing characteristics of these groups were not as visibly salient (e.g., Hartley, Rosenbaum and Schwartz, 1948; Radke, Trager and Davis, 1949).

According to Katz (1976), observation of intergroup differences and the ability to make differential responses to members of different groups provide the basis for the formation of rudimentary concepts, and for the association of labels with the delineated groups. These labels are generally provided by either surrounding adults or siblings, and often, evaluative components are communicated as well. This second step, attitude acquisition (formation of rudimentary concepts) is reported by Katz to occur in many, but not

all, children prior to three years of age, as is completed by age four.

Proshansky (1966) notes that between the ages of four and seven or eight years children become increasingly aware of racial and other kinds of ethnic group differences, and exhibit growing susceptibility to describe others and themselves in terms of group membership. Katz is even more explicit in delineating steps in attitude acquisition during this period. According to Katz, once they have formed rudimentary concepts, children begin to refine the definitions of these classifications and to recognize both positive and negative instances of the concept. Next, they begin to recognize some "person cues" are irrevocable (e.g., gender, race) while others are subject to change (e.g., age). Once children can both correctly label positive and negative instances and can recognize the immutable nature of group membership, Katz characterizes them as having reached the step of consolidation of group concepts. When evaluative content was introduced earlier concerning group members, this is also included in the concept. Evidence suggests that the consolidation process typically begins during the preschool period and continues as children enter grade school. As Allport (1954) has noted, "a bigoted personality may well be underway by the age of six, but is by no means fully fashioned."

For Goodman and Proshansky, the difference between ethnic orientation and ethnic attitude is "one of degree, not of kind." The greater differentiation and integration of beliefs, feelings and behavioral tendencies is what distinguishes a full-fledged attitude from an ethnic or racial orientation. Katz concurs when she cites perceptual elaboration and cognitive elaboration as the final steps leading to attitude crystalization.

Katz (1976) has discussed some of the variables that influence the formation of racial attitudes. These include direct instruction, social reinforcement, personality factors, child-rearing techniques, perception, social

interaction and cognitive development. Of course, the influences of these variables are not independent of one another, but are interrelated and some are more influential in the acquisition of a particular social attitude than others. Reviewers of research in this area (e.g., Katz, 1976; Pushkin and Veness, 1973) have complained that studies of attitude formation have focused on only a single variable at a time. They have argued that a better understanding of how social attitudes are formed will come from studies that empirically consider a multiplicity of variables. They have also argued for the need for experimentally designed research to complement cross-sectional findings in this field.

Logically, one must assume that the abilities to perceive and conceptualize differences between groups and to classify individuals according to their group membership are the cognitive precursors to the acquisition of any attitude.

Concepts of Age

Piaget (1969) has theorized about the cognitive components of children's concepts of aging and we can speculate that the development of these concepts is a necessary precursor to the development of positive or negative attitudes toward the aged. In order for children to systematically apply age-related stereotypes in formulating social judgments about the elderly, they must first recognize that differences exist between adults and these differences are related to age but independent of similarity or difference in size. Children could not categorize adults as aged and non-aged and associate distinguishing characteristics with each group if they did not understand what makes someone older than another. According to Piaget (1969), children's concepts about aging are based on two logical premises: (a) the seriation of births

entails the knowledge that older people (or any living organisms) were born before younger people, and (b) that birth order instead of physical attributes is the basis of ensuing age differences. The conservation of age differences entails knowledge that aging is a continuous, irreversible process that never reaches a final stage, even during adulthood when size differences between individuals are no longer correlated with age differences. Prior to the development of concrete operational structures (five to seven years) children tend to confuse aging with changes in the physical features of people.

Piaget (1969) and Lovell and Slater (1960) assessed the development of children's concepts of aging by presenting a series of pictures of apple and pear trees which had different rates of growth. The trees were shown at one year intervals, growing larger and bearing more fruit. Although the apple tree was planted two years before the pear tree and was initially larger than the pear tree, the growth rate of the pear tree began to surpass that of the apple tree in both size and amount of fruit. By the ages of five to seven years, children had no difficulty seriating the pictures according to changes in each tree's respective size, however, it was not until the ages of seven to nine that a majority of the children were able to correctly seriate pictures of both trees according to age independent of size.

Loof (1971) extended Piaget's age concept studies to human stimuli. Drawings of males and females representing four age levels (infant, child, adolescent, and adult) and two sizes at each age level were shown to children between three and nine years old. The ability to correctly judge the ages of the drawn figures independently of their contrasting sizes increased significantly with age. By age nine, more than three-fourths of the children made correct assessments.

Studies of children's ability to judge people's ages in which contradictory

size cues were controlled have yielded equivocal findings. Thomas and Yamamoto (1975) found that by nine years children were able to accurately estimate the ages of young, middle-aged and old people depicted in photographs. Britton and Britton (1969) found that preschoolers were very poor at this kind of task, while Kogan and Wallach (1961) reported that preschoolers were able to make surprisingly accurate age estimations.

In their study of children between the ages of three and eleven years, Jantz, Seefeldt, Galper and Serock (1976) found that at all age levels, children were able to identify the oldest man in a series of pictures depicting men at different ages. Nearly half of their subjects in the kindergarten level and all children above kindergarten were able to order a series of pictures from youngest to oldest correctly. However, prior to fourth grade children demonstrated limited ability to assign realistic age estimates to drawings of men.

CHAPTER II

Rationale and Hypotheses

Most of what is known about the development of social attitudes in children is based on their perceptions of gender and race differences. However, it is difficult to generalize from these studies to the development of children's attitudes toward aging because age discriminations are much more subtle (i.e. based on less salient perceptual cues) than race and gender discrimination.

As noted in the review of the literature, there have been few studies of young children's attitudes toward the aged, despite evidence that social attitude toward other target groups is begun by the preschool years. It is therefore unclear when children begin to acquire negative social attitudes toward the aged.

In addition, studies of children's attitudes toward the aged have relied on their responses to attitude scales, story-writing techniques and survey questionnaires. Given the evidence that actual behavior does not always correspond to responses on attitude scales and surveys, it is unclear how children's attitudes toward the aged affect their actual interpersonal behavior with old people.

Based on the above literature review, two interrelated factors emerge as explanations for the formation of negative attitudes toward the aged. The first involves lack of contact with the elderly and lack of personal awareness of their abilities. The hypothesis has been offered that lack of personal contact with old people fosters the formation and endurance of negative agist stereotypes. The second explanatory factor involves the relative status of aged individuals. While amount of

contact may be important, there is evidence that quality of that contact may also be crucial. The hypothesis has been offered that a critical factor governing attitude toward old people is the amount of useful information the aged are believed to possess and the degree of control they have over their environment (status).

With this background, the following summarizes the specific questions addressed in the current study:

- (1) When do children first begin to demonstrate negative social attitudes toward the aged?
- (2) How do children's attitudes toward the aged influence their actual behavior with aged individuals?
- (3) Are there age-related patterns of change in attitudes about the aged? Are there age-related patterns of change in interpersonal relations with the aged?
- (4) Are there gender-related patterns in attitudes about the aged? Are there gender-related patterns in interpersonal relations with the aged?
- (5) Does the amount of contact with old people affect children's attitudes about the aged? Does amount of contact with old people affect children's interpersonal relations with the aged?
- (6) Does the quality of contact with old people (their roles and type of activity in which they engage) affect attitudes of children about the aged? Does the quality of contact with old people affect children's interpersonal relations with the aged?

- (7) What are the cognitive precursors for the development of attitudes toward the aged? Do children have to reach a particular level of cognitive function in order to form attitudes toward the aged?

The tasks and data selected for inclusion in this study were an attitudinal scale, behavioral measures of attitude, demographic information on actual frequency and nature of children's contact with old people, and a measure of level of cognitive maturity. They focused on a multiplicity of variables and yielded both experimental data as well as data from an attitude scale. The rationale for choosing the specific age levels for subjects and adult cohorts follows, as well as the reasons for including each of the tasks and measures of children's attitude toward the aged.

Methodological Issues

Age of Subjects

In order to shed light on the course of development of agist prejudice, three age groups -- four-, six- and eight-year-olds, served as the subject population. Eight-year-olds were selected on the basis of results of earlier studies which reported that by eight years of age children were consistently able to judge people's ages (Thomas and Yamamoto, 1975; Britton and Britton, 1969; Kogan and Wallace, 1961) and had developed negative attitudes toward the aged (Hickey and Kalish, 1968; Hickey, Hickey and Kalish, 1968; Thomas and Yamamoto, 1975). According to Piaget (1969), between the ages of seven and nine years, children become able to conceptualize the process of aging in a logically consistent manner. Therefore, based on previous research showing that eight year old children recognize adult age differences and associate

negative stereotypes with the aged, eight year olds in this study were also expected to demonstrate agist prejudice.

Studies of the development of racial prejudice and sex-role stereotyping have shown that children's social attitudes begin to emerge during the preschool years (Proshansky, 1966; Goodman, 1964). While there is some evidence that four-year-olds are able to discriminate elderly people in photographs (Britton and Britton, 1969; Kogan and Wallach, 1961), it is unclear whether positive or negative connotations are attached to these discriminations. Four year olds were included in this study both to replicate the finding that the cognitive precursor for agist attitude development exists (the ability to identify aged individuals), as well as to determine whether four year olds have begun to develop social attitudes toward the aged.

Six year olds were included in order to study age-related patterns of change in the development of attitudes toward the aged. Piagetian literature has repeatedly depicted the five to seven year age range as a period of transition, in which children alter their cognitive schema and begin to confront problems using more complex logical operations than they had previously (Inhelder and Piaget, 1964; Piaget, 1974). If it is expected that children express agist prejudice at age eight, and may begin to develop such social attitudes as early as age four, then it is important to follow the course of this development at a time which may be transitional, and which may aid in understanding the course of development of these attitudes.

Age of Adult Cohorts

Robert Sheehan (1980) points out that much of the research which has addressed attitudes toward the aged has left the definition of

"aged" to the subject or respondent (Hickey, Hickey and Kalish, 1968; Hickey and Kalish, 1968; Looft, 1971). A review of the literature, however, reveals that whenever the minimum age of an old person is specified it ranges from 60 to 70 years of age (Bell and Stanfield, 1973; Britton and Britton, 1969; Hoyer and Cone, 1974). Both Sheehan's research (1980) and the present study define the aged as a person who is at least 70 years of age, the present retirement age in the United States.

Dependent Measures

Social Attitude Scale of Agist Prejudice (SASAP). The measure of children's social attitudes toward the aged was based on an adaptation of the Katz-Zalk Opinion Questionnaire (Katz, 1973; Katz, Sohn, and Zalk, 1975). This scale was originally developed to assess children's racial attitudes. In the present study, children were shown pairs of photographs of non-aged (35 to 50 year old) and aged (70 to 85 year old) adults, and were asked to select the one they regarded as the recipient of either negative or positive social events. For example, one of the items was, "Susan is sick. Which one of these two doctors will make her better?" Each item was scored zero or one, depending on the degree of agist prejudice exhibited. On negatively stated items, a score of one was assigned if the subject selected the photograph of the older adult; on positively stated items, a score of one was assigned if the subject selected the photograph of the younger adult.

If negative social attitudes toward the aged are a function of the age of subjects, then the score of younger subjects should be lower than those of older subjects.

For each child, half the picture-pairs shown as the targets of the attitude scale questions were males and half were females. For each subject, the two pictures in each pair were randomly matched (given the restrictions that they be of the same gender and each of different age group) and each question of the scale was randomly assigned its pair of target photographs. This procedure was used to determine whether children demonstrated more prejudice toward aged males or females on the SASAP. On the basis of the contact hypothesis, it would be expected that more prejudice would be directed toward aged males than females, since demographic data indicate that there are significantly more aged women than men in the population (U.S. Bureau of the Census 1970). Therefore, there would be more likelihood of contact with aged women than men, and thus, less prejudice directed toward them.

The content of the questions on the attitude scale was also analyzed. Questions were classified as to whether they concerned the abilities of old people or their personality characteristics. This analysis was used to determine whether children hold more stereotypes concerning the abilities or personalities of the aged.

Behavioral Measures

The procedure designed to yield behavioral measures of agist prejudice involved the interaction of each child with an adult cohort in a puzzle playing task. The children assigned to the Experimental Group interacted with an older adult (approximately 75-years-old), and the children assigned to the Control Group interacted with a younger adult (approximately 35-years-old). In each group, half the children interacted with a male

cohort and half of the children interacted with a female cohort. Behavioral measures included measures of proxemic distance, eye contact initiation, amount of verbal interaction, content of verbal interaction, productivity (number of puzzle pieces placed), direct evaluation of the cohort by the child, and the child's decision whether he/she wished to return to participate in another task with that cohort or a different one.

There is evidence that certain behaviors are expressions of underlying attitudes. Research findings have demonstrated that proxemic distance is negatively related to attitude (Mehrabian and Little, 1968); frequency of eye contact is positively related to attitude (Rubin, 1970); and frequency and complexity of verbal interaction is positively correlated with attitude (Weitz, 1972). Furthermore, the amount of useful information old people are thought to possess is related to positive attitudes (Maxwell and Silverman, 1971); therefore, the number of appeals to old people for assistance or information would be expected to correlate with positive attitudes toward them. Finally, the child's direct evaluation of the cohort and his/her expressed desire to return to do another activity with this cohort or another were included to determine the relationship between directly expressed attitude, behavioral measures and attitude scale results in children. The above evidence notwithstanding, research findings have indicated that adults' expressed attitudes, responses to attitude scales and verbal behavior toward the target of the attitude may not concur because of other situational determinants, such as fear of sanctions (LaPiere, 1938; Dutton, 1971). Studies relating children's stated attitudes to their actual intergroup behavior have also produced discrepant results. Stabler, Zeig, and Rembold (1976) found a significant positive correlation between preschoolers' racial attitudes and their

inter-racial play behavior, but Stevenson and Stevenson (1960) and Goodman (1964) found that race did not affect the selection of friends in their samples of preschool children. Mussen (1950) reported that boys who revealed a greater degree of prejudice on an attitude scale also showed more prejudice in a behavioral situation. J.H. Criswell (1939) reported that prejudice may affect the selection of friends by fifth graders. However, although the white northern twelve year olds in Rosner's (1954) study expressed racial feelings these attitudes were not reflected in their behaviors.

Cognitive Precursors

The classic Piagetian conservation of number task was included in the present study as a measure of children's level of cognitive development. Scores on the number conservation task were compared with scores on the attitude scale to determine whether a relationship exists between attainment of the stage of concrete operational thought as demonstrated in conservation of number and the ability to form consistent attitudes toward the aged. Dodwell (1962) found that the development of the concept of number usually coincided with the understanding of the nature of hierarchical classification. Jantz, Seefeldt, Galper and Serock (1976) reported a significant correlation between other Piagetian conservation tasks and the concept of age. The ability to understand classes and the relation between them, characteristic of concrete operational thought has proven to be the basis for mature concepts in many areas including time, space, seriation of age, etc. (Piaget, 1969; Inhelder and Piaget, 1969). Children's level of cognitive maturity would therefore be expected to relate to children's ability to form concepts about people as well.

The attainment of conservation of number requires the ability of the child to recognize that when a one-to-one correspondence between

the members of two sets exists there is equivalence, despite physical rearrangement of the members of these sets. If number is perceived as changing whenever the physical arrangement of the sets is merely altered then the child fails to appreciate that certain basic constancies or invariants exist in the environment (Ginsburg and Oppen, 1979). The cognitive ability which enables concrete operational children to conserve while preoperational children fail is the ability to decenter, or to focus on more than one characteristic of the relationship. For the pre-operational child, perceptual features are too strong and therefore interfere with mental actions.

The attainment of concrete operational thought, as evidenced by conservation of number, would be expected to parallel the child's recognition that certain constancies or invariants exist in the environment. The ability (for better or worse) to generalize the existence of these invariant relationships to the world of social relations would therefore be expected to be a cognitive precursor for the development of social attitudes toward particular targets. Children who are unable to perceive the one-to-one relationship between members of a particular group and some attributed characteristics (stereotypes) would not be expected to form a coherent attitude (positive or negative) toward the members of that target group. Although not all children who reach the concrete operational level of cognitive development are expected to demonstrate agist prejudice, one would expect that those who do demonstrate agist prejudice would also function at the concrete operational level cognitively. The inclusion of the number conservation task will test that expectation.

Demographic Variables

The mother of each child was interviewed about the frequency and quality of her child's interaction with old people. Research findings have demonstrated that the greater the amount of contact that young adults and adults have with old people the less negative their attitudes toward them (Naus, 1973; Gordon, 1970; Borges and Dutton, 1976; Rosencranz and McNevin, 1969). However, the important corollary to the contact hypothesis concerns the type of activity in which the older and younger people engage and the status or role of the elderly person. It has been suggested that the amount of knowledge attributed to the old person as well as his effectiveness or "potency" greatly influences the attitudes of others toward them (Simmons, 1945; Cowgill, 1968). The correlation between information about children's experience with the aged and their agist attitudes was computed to determine whether frequency and quality of contact affects the attitudes of young children in the same way that it does older individuals.

Hypotheses

The following hypotheses were proposed regarding the development of agist prejudice. The hypotheses concern the effect of the independent variables of subject age, cohort age, and cohort sex on the expression of agist prejudice in children. While there is no justification found for expecting a difference between boys and girls with regard to agist prejudice, sex of subject was entered as an independent variable to assess the influence of this variable on the development of agist prejudice. Previous research has not addressed the basis for stereotyping aged individuals. It is unclear whether old people are devalued

because they are perceived to be incapable of performing valuable functions or because their personalities are judged to be unappealing. Therefore, per cent of prejudiced responses regarding the abilities of the aged were compared with per cent of prejudiced responses regarding the personalities of aged individuals, but no prediction was made regarding the outcome.

1. Children between the ages of four and eight years will show negative stereotypes toward the aged. These negative stereotypes will be reflected in a significant per cent of prejudiced responses on the attitude scale (SASAP) as well as greater distancing from aged cohorts compared with non-aged cohorts on behavioral measures of social attitude.

2. Mean scores on the SASAP will increase significantly with the age of the subject. This hypothesis is based on several studies cited above (e.g., Katz, 1976; Maccoby and Jacklin, 1974) which provide evidence that prejudice toward other target groups increases with age.

3. Children will show significantly more prejudice toward old men than toward old women, by scoring a higher mean per cent of prejudiced responses on the subset of questions whose target is male than those questions with a female target. This hypothesis was based on the probability of more frequent contact with aged women due to their predominance in the population compared with aged men (U.S. Bureau of the Census, 1970).

4. There will be a significant interaction between the effects of subject age and cohort age for all behavioral measures. The effect of cohort age will be greater for eight year olds than for six year olds, and in turn than for four year olds.

5. There will be a significant interaction between the effects of the age of the cohort and the sex of the cohort. With regard to each of the behavioral measures it is expected that children will demonstrate significantly fewer positive behaviors toward old men than toward old women, but that there will be no such effect for younger cohorts.

6. There will be a significant three-way interaction between the effects of cohort age, cohort sex and subject age. The effects of cohort age and cohort sex will be greater for eight year olds than for six year olds, and in turn for four year olds.

7. Scores on the SASAP of children who meet with aged cohorts will correlate negatively and significantly with scores on the behavioral measures of attitude toward the aged, including number of eye contact initiations, frequency, complexity and content of verbal interactions, and productivity. Scores on the SASAP for children who meet with aged cohorts will correlate positively and significantly with scores on the measure of proxemic distance. There will be no significant correlations for children who meet with non-aged cohorts (the control group) between scores on the SASAP and the behavioral measures.

8. Children's scores on the number conservation task will increase significantly with the age of the child.

9. Within age groups, there will be a significant relationship between evidence of children's level of cognitive function as measured by the number conservation task and the degree of prejudice demonstrated on the attitude scale. Most six year old children who demonstrate agist prejudice are expected to be more likely to be capable of operational thought than children who did not show agist prejudice.

10. There will be a significant negative correlation between the frequency and quality of subjects' experience with aged individuals and their scores on the SASAP. There will be a significant negative correlation not only with the total SASAP score, but also with the scores on items about the abilities of old people and with the part of the scale regarding the personalities of old people.

No formal hypotheses were offered regarding the effects of parent's age, age of the old person with whom the child has regular contact or the proximity of the residence of that old person. Neither was a hypothesis offered concerning the correlation between the parent's assessment of their child's attitude toward the aged and the child's performance on the tasks in this study. However, these data will be analyzed to determine their possible relevance to the attitudes and behaviors of young children toward the aged.

CHAPTER III

Pilot Studies

As noted in Chapter II, measures of children's attitudes toward the aged included an adaptation of the Katz-Zalk Opinion Questionnaire of Social Attitude (Katz, 1973; Katz and Zalk, 1975). Three pilot studies were conducted to assess the validity and reliability of the Social Attitude Scale of Agist Prejudice (SASAP).

Pilot Study I: Photograph Reliability

There is evidence (Sheehan, 1980) that even four year olds are able to distinguish between aged and non-aged individuals if distracting physical cues such as unequal size are controlled. The purpose of this procedure was to select photographs of adults which four, six and eight year old children could consistently distinguish as being "aged" or "non-aged" adults, for use as targets for the attitude questions of the SASAP.

Subjects. Ten middle class Caucasian male and female children at each of three age levels (four, six and eight years) were seen individually in their schools.

Materials. One hundred 3 X 5 inch black and white photographs of Caucasian male and female adults were mounted in two identical rolodex displays. The photographs were full-face pictures of adults from the shoulders up, and the size of each image was two and three-quarters inches high. The photographs were of middle-aged adults (35-50 years old) and old adults (70-85 years old). All adults appeared well-dressed and healthy. Equal numbers of male and females were photographed, as well as equal numbers of old aged and middle-aged adults.

Method. Children were asked to play a sorting game. They were shown 50 pairs of photographs and were asked, "Which person is older?" In all cases, both photographs in the pair were of the same gender, but one photograph was of an old adult and one photograph was of a middle-aged adult. Within these limitations, pairs were randomly matched, with different pairings randomized across subjects.

Scoring. One point was assigned to each photograph in the pair if the child correctly discriminated the older adult. If the child made an incorrect judgment, both pictures scored zero. The percentage of correct responses was computed for each picture.

Results. Four year olds scored an average of 76 correct responses ($SD = 2.7$). Six year olds scored an average of 96 correct responses ($SD = 3.5$). Eight year olds also scored an average of 96 correct responses ($SD = 2.1$).

The number of correct responses to each picture ranged between 30 (perfect agreement of all subjects) and 20. All pictures on which there were four or more errors were deleted, leaving 60 pictures (the requisite number for the Social Attitude Scale of Agist Prejudice). There was 90 per cent agreement (no more than three errors) on each of the remaining photographs, which were selected for use in the remaining pilot tests and in the actual study.

Pilot Study II: Question Validation

The purpose of this procedure was to determine whether the questions proposed for the Social Attitude Scale for Agist Prejudice distinguished between positive and negative attitudes toward the aged. Prejudiced responses were those in which the aged target was either (a) chosen as the

adult who was ineffective or had unpleasant personality traits, or (b) was not chosen as the adult capable of performing a task or having pleasant personality traits. Conversely, if the aged adult was chosen as the recipient of a positive social event or excluded from a negative social event, no agist prejudice was demonstrated. This pilot procedure provided a test of whether questions on the scale could consistently distinguish between children's prejudiced and non-prejudiced responses.

Subjects. Ten middle-class Caucasian children at each of three age levels (four, six and eight years) were each seen individually. Only children who had not participated in the photograph reliability procedure were selected for this pilot test.

Method. Children were told that they were going to play a game in which they would guess what another imaginary child would say. They were shown a magazine picture of a boy or a girl (corresponding to their own gender) and were told, "This is Jimmy/Suzi. Jimmy/Suzi does/does not like old people. Please answer each question I ask as Suzi/Jimmy would answer them."

Children were randomly assigned to each condition (likes/does not like old people), with half of the children in each age group assigned to each condition.

With the magazine picture in front of them as a reminder of their assigned role, children were shown 30 pairs of photographs. Only photographs on which there was a minimum of 90 per cent inter-rater agreement on the photograph reliability procedure were used.

Children were asked to take the role of the hypothetical child and to select the photograph of the person Jimmy/Suzi regarded as the target

or protagonist in the situation described. Sixteen buffer items, in which pairs of photographs of similar aged and opposite sex individuals were inserted. The buffer items were intended to mask the purpose of the scale. A complete list of the items is included in Appendix A.

All scale items compared individuals of the same sex, and there were an equal number of male and female pairs. In half of the scale and buffer items the children were asked to choose the recipient of a positive social event, and in half of a negative social event. Photographs were randomly assigned to pairs within gender. The match between photograph pairs, sex of pictured adults (targets) and questions was also randomized across subjects.

Following each three items children were reminded to "answer the way Suzi/Jimmy would. Remember, Jimmy/Suzi likes/does not like old people."

Scoring. Each scale item was scored zero or one, depending on the degree of agist prejudice exhibited. On negatively stated items, a score of one was assigned if the subject selected the photograph of the older adult. On positively stated items, if the subject selected the photograph of the younger adult rather than the aged adult a score of one point was assigned. Thus, the higher the score, the more evidence of agist prejudice on the SASAP.

Results. Table 1 presents the means and standard deviations of subjects in the role-taking pilot test of the SASAP.

The data indicated that children who were asked to answer the proposed questions on the SASAP as if they did not like old people scored an average of 84.67 per cent ($SD = 18.12$), whereas children who answered as though they liked old people best scored an average of 19.55 per cent ($SD = 22.90$).

Table 1
Mean Per cent and Standard Deviations of Prejudiced Responses
on SASAP by Subject Age and Role in Question Validation Procedure

Subject Age	Roles			
	Non-Prejudiced		Prejudiced	
	M	SD	M	SD
4 years	44.0	18.5	66.0	19.6
6 years	14.0	16.4	91.3	7.6
8 years	.7	1.5	96.7	5.8
Pooled subjects	19.6	22.9	84.7	18.1

A two-way (role by age) ANOVA revealed a significant effect for role, $F(1,29) = 179.13$, $p < .001$, as well as a significant age by role interaction, $F(2,29) = 21.41$, $p < .001$. Children in the prejudiced role condition scored significantly higher than children who were asked to assume a non-prejudiced role. The scores of children in the two role groups became increasingly different with the age of the subjects. The older the children in the prejudiced role group, the higher was their prejudice score; the older the children in the non-prejudiced role group, the lower was their score. This interaction is shown in Figure 1.

Pilot Study III: Split-Half Reliability and Item Remainder

Reliability

The purpose of this procedure was to determine the reliability of the Social Attitude Scale of Agist Prejudice (SASAP).

Subjects. Ten middle class Caucasian children, who had not participated in previous pilot tests of this instrument, at each of three age levels (four, six and eight years) were seen individually.

Method. Children were told that the experimenter was interested in learning about what children thought about grownups. Children were then shown pairs of photographs of aged (70 to 85 years old) and non-aged (35 to 50 years old) individuals and were asked to select the one they regarded as the recipient of either negative or positive social events. An example of a question about a positive social event is, "One of these people is always invited to all the parties because everyone likes him. Which person does everyone like?" An example of a question about a negative social event is, "These two men are arguing. One of them is nasty and always yells at people. Which one is nasty?" A complete list of items is included in Appendix A. Only photographs on which there was

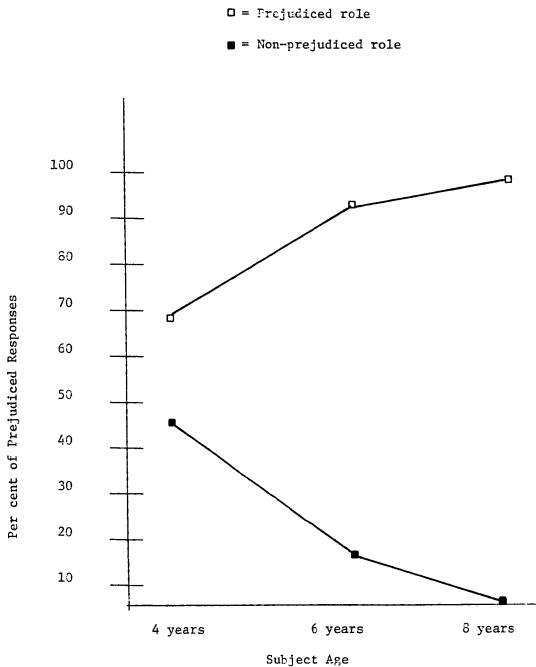


Figure 1. Mean per cent of prejudiced responses in the question validation pilot procedure as a function of subject age and assumed role.

at least 90 per cent inter-rater agreement in the photograph reliability procedure were used. The scale included 30 items plus 16 buffer items (in which pairs of opposite sex, similar aged individuals were matched). All the scale items compared individuals of the same sex, and there were an equal number of female and male pairs. In half of the items the children were asked to select the recipient of a positive social event, and in half, of a negative social event.

Scoring. Each item was scored zero or one, depending on whether agist prejudice was exhibited. On negatively stated items, a score of one was assigned if the subject selected the photograph of the older adult. On positively stated items, a score of one was assigned if the subject excluded the aged adult and selected the photograph of the younger adult.

Results. The Guttman Split-Half reliability coefficient was computed to be .87. The correlation between the two half tests was .78.

To assess the construct validity of the SASAP (i.e., what factors or constructs account for variance in test performance) the item-total correlation of the test was computed. "In using this technique, the total test score of any individual is assumed to be valid. To the extent that any item measures the same thing the total test score does, to that extent the item is valid (Kerlinger, 1964)." For each item, the correlation between that item's score and the scale score was computed from the other items in the test. Item-remainder Alpha scores ranged between .65 and .70. An analysis of variance revealed no significant difference in item-total correlations for items on the scale. Thus, the Social Attitude Scale of Agist Prejudice proved to be sufficiently reliable and valid.

CHAPTER IV

Procedure

Method

Subjects were seen individually in their schools on two different occasions. At one meeting with the experimenter, the children completed the Social Attitude Scale of Agist Prejudice (SASAP), and they completed the behavioral measures and conservation task at another session. The order of presentation of tasks was counterbalanced across subjects. Children were randomly assigned to the experimental (aged cohort) and control (non-aged cohort) conditions for the behavioral measures. The SASAP scores of subjects in the two groups were compared with a t test and did not differ significantly. The mean scores of the experimental and control groups were 61.1 per cent ($SD = 17.6$) and 59.5 per cent ($SD = 18.2$) respectively.

Subjects

The subjects were 144 four, six and eight year old middle-class Caucasian children from a preschool and two elementary schools. The mean age for each group was 4 years, 7 months; 6 years, 8 months; and 8 years, 6 months. A total of 65 boys and 79 girls participated in the study. Half the subjects in each age group were assigned randomly to the experimental groups for the behavioral measures.

Measures

Social Attitude Scale of Agist Prejudice. Children were shown pairs of photographs of non-aged (35-50 years) and aged (70-85 years) individuals and were asked to select the one they regarded as the recipient of either negative or positive social events. The scale included 30 items plus

16 buffer items in which pairs of similar aged individuals were matched. All of the scale items compared individuals of the same sex, and there were an equal number of male and female pairs. The buffer items were included to mask the intention of the task. In half of the items the children were asked to choose the recipient of a positive social event, and in the other half, of a negative social event.

Children received a score of one for each question that they answered in a prejudicial manner. Prejudiced responses were those in which the aged adult in the pair of photographs was judged ineffective or unworthy of positive social regard. Children scored points both for attributing negative characteristics to the aged targets as well as for excluding aged adults from positive judgments. The maximum possible score on the SASAF was 30 points.

Behavioral measures of social attitudes. In order to obtain behavioral measures of their social attitudes toward the aged, children were brought individually to a separate room in their school. The room contained a children's table (5 feet by 2 feet), several chairs, and there were two attractive jigsaw puzzles suitable for the child's age group on the table. The experimenter and another adult (cohort) were in the room. The adult cohort was either an aged individual (approximately 75 years old) or a non-aged adult (approximately 35 years old). Half of the children in each age group were randomly assigned to the experimental group (aged cohort) and the other half to the control group (non-aged cohort). There were four cohorts for each condition; two males and two females. Subjects were randomly assigned to the cohorts within their condition.

All the aged and non-aged adult cohorts were volunteers who had previous professional experience working with children. Cohorts in both age groups were healthy and dressed in fashionable casual clothing. Prior to actual data collection each cohort was observed by the principal investigator as they

administered the puzzle task to two children at each age level (four, six , and eight years). Prior to each trial administration the cohort was reminded to be responsive to the children's attempts to initiate conversation, but not to initiate conversation aside from the three designated "probes". The cohorts were also instructed not to initiate eye contact with the children once puzzle play began, but rather to focus on the puzzle board. All verbal interaction between children and cohorts was recorded. Following each trial the cohort and principal investigator listened to the tape together and constructive criticism concerning the cohort's verbal and non-verbal performance was offered. Following six training trials each cohort was judged by the principal investigator to be following the procedure rigorously, and the performances of all eight cohorts were judged consistent.

On their way to the experimental room from their classrooms, the children were told that they were going to be asked to work on a puzzle along with someone else. In order to make the situation appear plausible to the children, they were told that the person with whom they would work was being considered for a position at the school and we wanted to see how well they got along with children. After the entire study was completed children were debriefed, and told that although we did want to see how the adults and children worked together, the adults were not trying out for a job at the school.

Proxemic distance. When the children entered the room, the cohort was seated on the only chair located beside the table. After the children were introduced to the cohort they were asked to fetch a chair for themselves and to place it at the table so that they could work on a puzzle together with the cohort. A mat with six inch grids marked on it had been placed under the table and surrounding area so that the experimenter could record the distance between the cohort's chair and where the children placed their chairs. The distance between the closest legs of the chairs was recorded, to the closest

six inches.

Productivity (Number of puzzle pieces placed). Cohorts placed two pieces of the puzzle for every three placed by the children. After three minutes of play, the number of pieces correctly placed by the children was tallied. The children were allowed to complete the puzzle with the cohort. Each puzzle had 16 pieces. There were two puzzles for each age group, and the children were permitted to select the puzzle on their level that they wished to complete.

Verbal interaction. Cohorts used the following probes designed to elicit conversation with the children:

1. When they began work on the puzzle the cohort said, "This looks like a good puzzle."
2. After one minute, the cohort said, "How do you think we're doing?"
3. At the beginning of the third minute the cohort said, "This looks pretty good, doesn't it?"

The cohorts were instructed to be responsive to the children's attempts to make conversation, however they were not to initiate conversation aside from the probes. All of the verbal interaction between the children and cohorts was recorded and transcribed to determine the following measures of verbal interaction: (a) number of words spoken by the children, (b) number of times the children initiated conversation, inquiries and appeals, (c) mean clause length (a measure of linguistic complexity), (d) number of direct or indirect verbal appeals for assistance or verification by the children. All verbal interaction measures were collected during the first three minutes of puzzle play. A verbal appeal for assistance or verification was operationally defined as a direct request for information (e.g., "Where does this go?"), an indirect request for assistance (e.g., "I don't know where this goes."), or a request

for verification (e.g., "Does this go here?"). Two independent judges scored the transcripts and tabulated the number of appeals for each subject. In case of disagreement, the transcripts were discussed and the disagreement was resolved.

Eye contact initiation. The experimenter recorded the number of times children directed their gaze toward the cohort during the first three minutes of puzzle play.

Children's statement of opinion. When the cohorts and children completed their puzzles, the cohorts left the room and the children were asked why they thought the particular cohort with whom they worked would be good or bad for a job working with children. The children were also asked if and why they enjoyed working with the cohort, and whether they would like to return to do something else with the cohort with whom they worked or with someone else.

Conservation of number. The format of the task was similar to that employed by Piaget (1952; Piaget, Inhelder and Szeminska, 1960). Subjects compared two rows of eight checkers arranged in one-to-one correspondence. Children were asked to select one row (red or black) as theirs and the other was designated as the experimenter's. Subjects were asked to verify that there were equal numbers of checkers in each row. Following the subject's verification of their equivalence, the stimuli were perceptually transformed. One row of checkers was either expanded or contracted relative to the unaltered row, and the subject was asked, "Do you and I have the same number of checkers to play with, or do I have more checkers to play with, or do you have more checkers to play with?" The child was also asked to explain the reason for his response. A second trial involving a second perceptual transformation (expansion or contraction) followed. In a third trial, a checker was either added or removed before the expansion or contraction. The transformation

involving unequal quantity served as a check for the occurrence of false positives (i.e., the tendency of the child to report equivalence regardless of the type of transformation). On the inequality trial, children were first asked to recognize the inequality of number before the transformation took place.

After each transformation, the checkers were returned to their original one-to-one correspondence, and the child was asked if the two rows of checkers were equivalent in number. No further transformations were performed until the child agreed both rows contained equal numbers of checkers. All transformations were made in full view of the child.

On alternate trials the subject's and experimenter's rows of checkers were transformed. The addition or subtraction of checkers on the inequality trial was also alternated across subjects. Expansion and contraction of the rows of checkers was alternated across trials.

A score of one indicated both a correct response and reason on a trial. Thus, scores for the conservation task ranged from zero to three.

Experience with the aged. Telephone interviews were conducted with the mothers of the children to determine the frequency and quality of their children's interaction with aged individuals. The interviews took place within one month of a child's participation in the study. The interview schedule is included in Appendix B.

Mothers were asked to answer the questions with reference to one aged individual with whom their child has had contact within the past year. Although responses were collected for each "old person" specified by the mother, only data about a single individual over 70 years with whom the child had the most contact was tabulated in this study.

CHAPTER V

Results

Children's responses to the Social Attitude Scale (SASAP) and to the verbal and nonverbal behavioral measures were analyzed to determine the nature and strength of children's attitudes toward the aged as a function of subjects' age and sex and cohorts' age and sex. Scores on the attitude and behavioral measures were also correlated to analyze the relationship between children's attitudes about the aged and their behaviors toward them. Finally, these scores were compared to measures of cognitive functioning and prior experience with the aged to determine the relationship between these variables and the development of agist prejudice in children.

Social Attitude Scale of Agist Prejudice (SASAP)

As noted in Chapter 4, children received one point for each question on the attitude scale that they answered in a prejudiced manner. The maximum possible score was 30. Prejudiced responses consisted of negative judgments of the abilities or personalities of aged targets as well as answers which excluded aged targets as the recipients of positive social events. Thus, the greater the number of prejudiced judgments made by the children, the higher were their scores.

All data analyses on SASAP scores were performed on transformations of the raw scores to the per cent of questions answered in a prejudiced way. This transformation was necessary because in addition to analyses of subjects' total SASAP scores, subjects' scores on several subsets of scale items were also compared (i.e., the number of prejudiced responses

to male targets vs. female targets; the number of prejudiced responses to questions about targets' abilities vs. about targets' personalities). Some of these subsets contained unequal numbers of questions. In the interest of consistency, all SASAP scores were transformed to per cents.

The mean per cent of prejudiced responses on the SASAP for all subjects was 59.38 (SD = 10.9). One would expect that by chance, the mean per cent score on the SASAP would be 50, since each item had two response choices. A t test comparing the observed mean per cent with the expected mean per cent yielded a significant difference, $t(144) = 6.25$, $p < .01$. As predicted, children within the age range of four and eight demonstrated significant agist prejudice in their responses to the SASAP.

A two-way analysis of variance was computed to assess the effects of subjects' age and sex on their SASAP scores. These mean per cent scores and standard deviations are presented by subjects' age and sex in Table 2. The analysis of variance indicated a significant age of subject effect, $F(2,143) = 15.61$, $p < .01$. Pair-wise comparisons were computed using Tukey's HSD procedure, which indicated that while there was a significant increase between the mean per cent scores of four year olds and the scores of children in the two older groups ($p < .05$), the scores of the six and eight year olds did not differ significantly from each other. Thus, frequency of prejudiced responses increased significantly between four and six years, but remained stable between six and eight.

Tukey's HSD procedure for paired comparisons was used for comparison of these scores as well as all other analyses in this study involving three or more levels of a variable and all interactions. Tukey's HSD method

Table 2
Mean Per cent and Standard Deviations of Prejudiced Responses
to the SASAP by Subject Age, Subject Sex and Sex of Target

Subject group	Sex of Target					
	Male		Female		Combined	
	M	SD	M	SD	M	SD
4 year olds	49.5	16.2	48.9	20.0	49.1	15.7
Male					48.0	16.0
Female					49.1	15.7
6 year olds	62.5	21.2	67.9	16.5	64.2	19.3
Male					70.8	15.4
Female					59.6	17.1
8 year olds	62.6	20.2	68.0	19.3	64.5	19.8
Male					63.0	15.3
Female					67.7	17.2

insures that all comparisons are simultaneously conducted at an alpha level of .05. The test is approximate for unequal group sizes.

The mean per cent of prejudiced responses for boys was 61.4 (SD = 18.3) and for girls it was 59.0 (SD = 18.6). The ANOVA revealed no significant difference between scores of male and female subjects on the SASAP, however, there was a significant interaction between subject age and subject sex, $F(2,143) = 3.13$, $p < .05$. Pairwise comparisons (using Tukey's HSD procedure) indicated that the only significant difference in scores between male and female subjects was for six year olds; boys demonstrated significantly more prejudice on the SASAP (70.3 per cent) than did girls (59.6 per cent) ($p < .05$). While there was a consistent increase in mean per cent score with age for female subjects (49.1, 59.6, 64.5), scores of male subjects increased sharply between four and six years (48.0 and 70.3 respectively) and decreased slightly for eight year olds (63.0). However, the mean per cent scores of eight year old boys were still significantly higher than those of four year old boys ($p < .05$). This interaction is depicted in Figure 2.

The per cent of prejudiced responses to questions referring to males was compared with the per cent of prejudiced responses to questions referring to females, in order to determine whether children were more prejudiced against old men or old women. Questions on the SASAP were also classified according to whether they referred to the abilities or personalities of their targets, to determine why children devalue aged adults. In other words, are children's stereotypes of the aged based on assumptions about their inability to function effectively or are they predicated on negative personality traits? Three independent judges

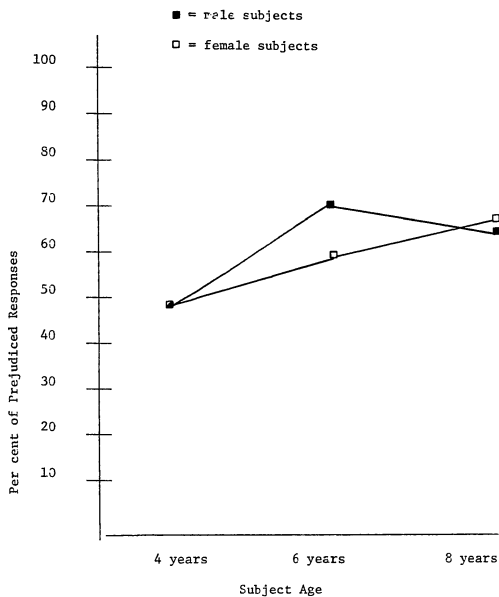


Figure 2. Mean per cent of prejudiced responses to SASAP as a function of subject age and subject sex.

classified the questions of the SASAP according to the type of attribute each question addressed. Questions were divided into two categories or subsets: those demanding a judgment about the capability of the adult targets to function effectively in performing a designated task (ability), and those demanding a judgment about the target adults' personality attributes which would make them socially appealing or unappealing. An example of a question about ability was, "Mrs. Black and Mrs. Green both sing well. Which woman will win the prize for singing best?" An example of a question regarding personality was, "Mr. Brown is having a party. He does not like one of the men at work and is not going to invite him. Which one is not going to be invited to the party?" The per cent of inter-rater agreement for assigning the questions to ability or personality categories was 91.6. In case of disagreement, the question was discussed and the disagreement resolved. The scale included 17 questions about the targets' personality attributes and 13 questions about their abilities.

A three-way repeated measures analysis of variance was computed on the mean per cent scores of the SASAP. The two repeated measures were target sex and type of attribute addressed by the question. Mean per cent scores and standard deviations on each subset of questions by target sex and subject age are presented in Table 3.

Subjects showed significantly more prejudice against old women than old men, $F(1,47) = 6.79$, $p < .01$. The interaction between subjects' age and target sex was not significant. As Table 2 shows, prejudice toward old men as well as toward old women increased significantly between ages four and six ($p < .05$) and then remained stable. Furthermore, in

Table 3
Mean Per cent Scores, Standard Deviations of Prejudiced
Responses to SASAP by Subject Age and Focus of Question

Focus of Question	Age of Subject							
	4 years		6 years		8 years		Combined	
	M	SD	M	SD	M	SD	M	SD
Ability Traits	50.6	18.6	65.3	22.1	59.5	30.7	58.9	25.1
Male Target	49.4	19.5	64.1	24.9	60.7	31.1	57.5	26.5
Female Target	51.0	24.6	67.1	24.2	56.9	33.0	58.3	28.2
Personality Traits	46.5	18.5	65.7	19.9	72.7	22.9	62.5	22.5
Male Target	47.4	23.2	58.8	27.9	66.9	31.2	57.7	28.6
Female Target	46.5	24.5	70.3	21.1	79.2	24.5	65.3	27.1

the two older groups where a significant amount of agist prejudice was evident, more prejudice was directed at female targets than at male targets in both cases ($p < .05$).

Across target sex, subjects indicated greater prejudice regarding the personalities of old people (62.5 per cent) than about their abilities (58.9 per cent) (See Table 3). This difference was statistically significant, $F(1,47) = 4.79$, $p < .05$. Children showed similar levels of agist prejudice regarding the abilities of male and female targets (58.3 and 57.5 per cent, respectively). However, they showed more prejudice against old women (65.3 per cent) than against old men (57.7 per cent) on questions about their personality traits. This interaction between sex of the target and the type of attribute addressed by the questions was statistically significant, $F(1,47) = 5.97$, $p < .05$. This interaction is presented in Figure 3.

The interaction between the effects of subjects' age and the focus of the question (ability or personality of the target) was also statistically significant, $F(2,47) = 13.18$, $p < .001$. On questions about the personalities of the targets, the scores of four, six and eight year olds were 46.5, 65.7 and 72.7 per cent, respectively. Thus, there was a significant increase in the per cent of prejudiced responses to questions about the personalities of old people between four and six years, and between six and eight years ($p < .05$). On the other hand, while the per cent of prejudiced responses to questions about the abilities of the aged increased significantly from four to six years (50.6 and 65.3 per cent, respectively), there was no significant difference between the scores of six and eight year olds (65.3 and 59.5 per cent, respectively).

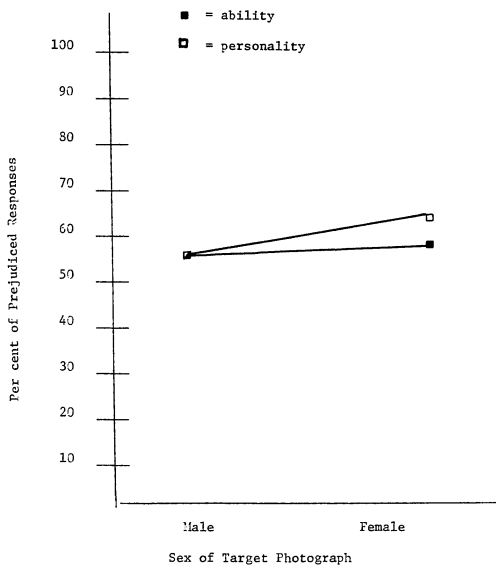


Figure 3. Mean per cent of prejudiced responses to SASAP as a function of sex of target photograph and type of attribute (ability or personality) evaluated by question.

Furthermore, while both four and six year olds showed similar levels of prejudice on questions about the abilities and personalities of old people, eight year olds showed significantly more prejudice about the personalities of the aged than about their abilities ($p < .05$). This interaction is shown in Figure 4.

On questions about both the abilities and personalities of male as well as female targets, children between the ages of four and six years demonstrated a significant increase in prejudice against the aged ($p < .05$). However, between the ages of six and eight years, children's negative stereotypes about the personalities of both old men and old women increased significantly, while they showed significantly fewer instances of stereotyping regarding the abilities of old women ($p < .05$). There was no significant difference between the scores of six and eight year olds regarding the abilities of old men. This interaction between the effects of sex of the target, type of attribute addressed by the question and age of the subject was statistically significant, $F(2,47) = 3.26$, $p < .05$. This interaction is shown in Figure 5.

Since the results of the analyses of scores on the attitude scale (SASAP) were complex and involved, the findings will now be summarized. Children between the ages of four and eight years demonstrated prejudice against the aged on the attitude scale (SASAP). Across subject age, there was no significant difference between the level of prejudice shown by boys and girls. Across subject sex, the amount of prejudice toward the aged increased significantly with the age of the subject between the ages of four and six. However, level of prejudice did not differ

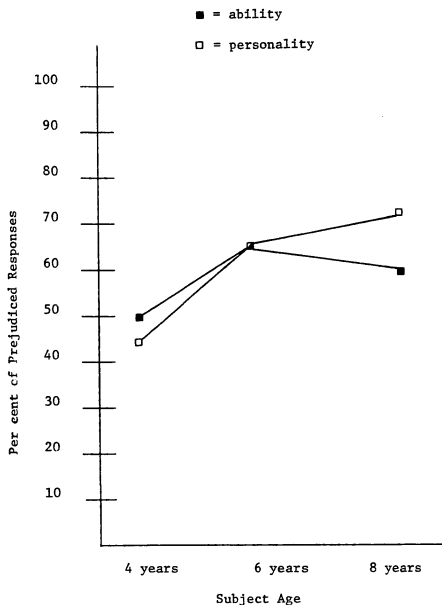


Figure 4. Mean per cent of prejudiced responses to SASAP as a function of subject age and type of attribute (ability or personality) evaluated by question.

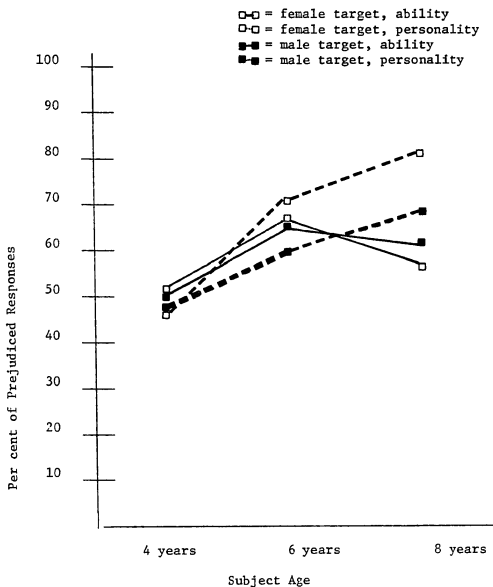


Figure 5. Mean per cent of prejudiced responses to SASAP as a function of subject age, gender of target photograph and type of attribute (ability or personality) evaluated by the question.

significantly between six and eight years. When both sex and age of subjects were considered there was a significant interaction. Six year old boys demonstrated significantly more agist prejudice than did girls of the same age, as well as giving a significantly greater per cent of prejudiced responses than four year old boys and eight year old boys. It is interesting to note that only the level of prejudice demonstrated by six year old boys differed from the consistent pattern of gradual increase in prejudice with subject age.

Contrary to the original hypothesis, children showed more prejudice against old women than old men. Across target sex and subject age, children also showed more prejudice about the personalities of old people than about their abilities. However, when the sex of the target was considered, children responded differently to male and female targets. While children showed similar levels of prejudice against old men and old women regarding their abilities, they showed significantly more prejudice toward old women than old men on questions about personality traits. When children's age as well as the focus of the question (ability or personality) was considered there was also a significant interaction. Both four and six year olds showed similar levels of prejudice on questions about the abilities of old people as on questions about their personalities. The mean per cent of both these categories of negative stereotypes also increased with the age of the children. However, whereas eight year olds continued to show even greater prejudice about the personalities of the aged, their prejudice about the abilities of the aged did not increase. Consequently, eight year olds showed significantly more prejudice against old people regarding their personalities than their

abilities.

There was also a significant three-way interaction involving the age of the subject and the type of attribute. On questions about the personalities of the targets, level of prejudice significantly increased with the age of the subjects. Four year olds showed neither a significant per cent of prejudiced responses against the aged on questions about their personalities nor responded with differential levels of prejudice toward old men or old women. However, the per cent of prejudiced responses to questions about personality attributes increased significantly with subject age, with a greater per cent of prejudiced responses directed toward females than toward males. Four year olds also did not respond with significantly higher prejudiced judgments against old men or old women on questions about their abilities. The per cent of prejudiced responses to questions of ability increased significantly between four and six years, but did not change significantly between six and eight years. At all three ages, children showed no significant differences in their judgements of the abilities of old men and old women. The data indicated that while prejudice about the personalities of old people continued to increase between the ages of four and eight, particularly toward old women, after age six children judged the aged less negatively with regard to their abilities compared to personality traits.

Behavioral Measures

Several four-way analyses of variance (Cohort Age X Cohort Sex X Subject Age X Subject Sex) were computed for various verbal and behavioral

measures of attitude. Results of these ANOVAs are shown in Table 4. Complete summary tables for all analyses of variance are included in Appendix C.

In general, children distanced themselves more from aged cohorts compared to non-aged cohorts on the behavioral measures. These differences appeared both on the measures of proxemic distance and frequency of eye contact initiation and on the measures of the number of words spoken to cohorts, the number of initiations of conversation with cohorts and the number of appeals for assistance or verification. Only the measures of productivity and verbal complexity failed to provide evidence of children's greater social distancing from aged cohorts than non-aged cohorts.

Proxemic distance. Table 5 presents the means and standard deviations for the proxemic distances at which children placed their chairs when interacting with male or female, aged or non-aged adults. It was predicted that children would seat themselves farther from aged cohorts than from non-aged cohorts. Across cohort sex, children sat significantly farther from aged cohorts (21.8 inches) than from non-aged cohorts (17.5 inches), $F(1,143) = 17.79$, $p < .001$. There was a significant interaction between cohort age and sex of cohort, $F(1,143) = 5.80$, $p < .05$. Figure 6 shows that while children did not sit significantly farther from old men (22.3 inches) than from younger men (19.1 inches), they did sit significantly farther from old women (23.7 inches) than from younger women (15.5 inches), $p < .05$.

There was also a significant main effect for subject age, $F(2,143) = 8.57$, $p < .001$. The older the children, the farther they seated themselves

Table 4

F Statistics for Four-Way Analyses of Variance
for Some Behavioral Measures

		Behavioral Measures					
Source	Prox. Distance	Init. of Eye contact	Productivity	No. of Words	Init. of Verbal	NCL	No. of Appeals
Cohort Age (A)	(1,143)	17.79***	ns	3.66*	7.14**	ns	7.50**
Cohort Sex (B)	(1,143)	ns	8.00**	ns	ns	ns	ns
Subject Age (C)	(2,143)	3.57***	5.62**	ns	ns	ns	3.56*
Subject Sex (D)	(1,143)	ns	ns	ns	ns	ns	ns
A X B (1,143)	5.80**	ns	ns	ns	ns	ns	ns
A X C (2,143)	ns	3.16*	ns	ns	ns	ns	ns
A X D (1,143)	ns	4.35*	ns	ns	ns	ns	ns
B X C (2,143)	ns	ns	ns	ns	ns	ns	ns
B X D (1,143)	4.04*	6.25*	ns	ns	ns	ns	ns
C X D (2,143)	ns	ns	ns	3.11*	ns	ns	ns
A X B X C (2,143)	ns	ns	ns	ns	ns	ns	ns
A X C X D (1,143)	ns	ns	ns	ns	ns	ns	ns
B X C X D (2,143)	ns	ns	ns	ns	ns	ns	ns
A X B X C X D (2,143)	ns	ns	ns	ns	ns	ns	ns

Note: Figures in parenthesis are degrees of freedom.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 5
Means and Standard Deviations for Proxemic Distance
Scores by Subject Age and Cohort Characteristics

Cohort	Age of Subject							
	4 years		6 years		8 years		Combined	
	M	SD	M	SD	M	SD	M	SD
Aged	17.5	6.8	24.5	10.3	24.5	9.8	22.2	10.0
Male	10.0	8.4	23.0	10.2	24.5	10.4	22.3	9.4
Female	18.0	5.1	26.0	9.7	27.0	9.4	23.7	9.1
Non-Aged	19.0	8.6	16.5	6.2	15.6	7.7	16.5	7.2
Male	16.2	10.1	18.0	7.7	23.5	9.0	19.5	8.9
Female	14.5	5.9	15.0	4.1	17.0	5.0	15.5	5.1

Note. Proxemic distance scores measured the number of inches subjects seated themselves from cohorts.

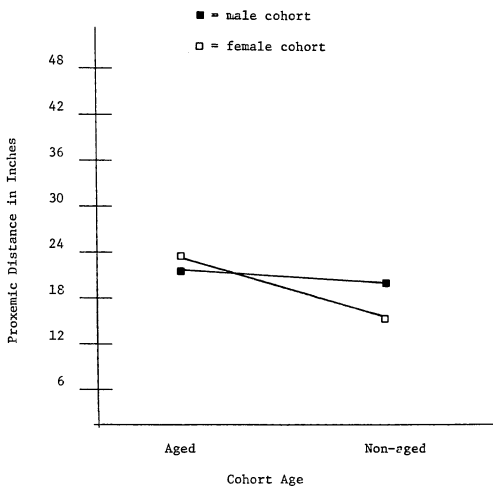


Figure 6. Mean distance (in inches) at which subjects seated themselves (proxemic distance) from cohorts as a function of cohort age and cohort sex.

from adults of both age groups. Furthermore, while the main effects for subject sex and cohort sex were not significant, the interaction of those two factors was significant, $F(1,143) = 4.04$, $p < .05$. Across cohort age, girls sat closer to female cohorts than to male cohorts while boys sat closer to male cohorts. This interaction is shown in Figure 7.

Productivity (Number of puzzle pieces placed). The four-way analysis of variance (Cohort Age X Cohort Sex X Subject Age X Subject Sex) of productivity scores did not yield any significant effects.

Eye contact initiation. Table 6 presents the mean number of initiations of eye contact by children of each sex in each age group toward aged and non-aged cohorts of both sexes. As predicted, children initiated eye contact toward aged cohorts ($M = 3.0$) less frequently than toward non-aged adults ($M = 5.4$). This difference was statistically significant, $F(1,143) = 18.44$, $p < .001$.

The number of eye contact initiations was also affected by subjects' age, $F(2,143) = 5.62$, $p < .01$. Younger children initiated eye contact with adults significantly more often than older children. Pairwise comparisons indicated a significant difference between the number of initiations by four year olds ($M = 5.5$) and eight year olds ($M = 3.4$), but scores of six year olds ($M = 3.7$) did not differ significantly from either age group. However, there was a significant interaction between cohort age and subject age, $F(2,143) = 3.15$, $p < .05$. As Figure 8 shows, frequency of initiation of eye contact toward aged cohorts decreased consistently as subjects' age increased. Pairwise comparisons indicated a significant difference between the frequency of eye contact initiation

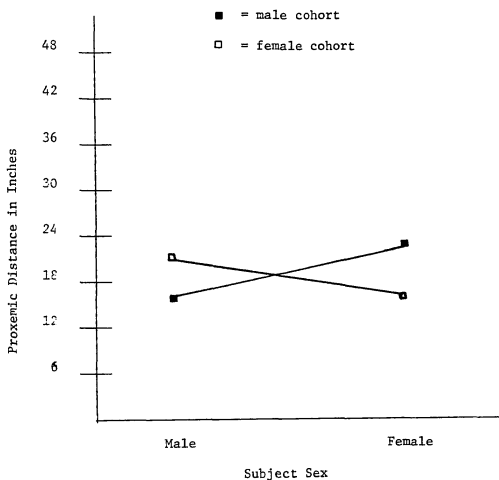


Figure 7. Mean distance at which subjects seated themselves (proxemic distance) from cohorts as a function of cohort sex and subject sex.

Table 6
Means and Standard Deviations for Frequency of Eye Contact
Initiation by Subject Age and Cohort Characteristics

Cohort	Age of Subject							
	4 years		6 years		8 years		Combined	
	M	SD	M	SD	M	SD	M	SD
Aged	4.0	1.9	3.0	2.2	2.0	1.9	3.0	2.2
Male	3.6	1.6	2.8	2.4	1.7	1.4	2.7	2.0
Female	4.5	2.2	3.1	2.2	2.5	2.3	3.4	2.3
Non-Aged	6.5	2.6	4.5	2.2	4.5	2.4	5.4	2.4
Male	6.0	1.8	4.0	1.7	2.8	1.1	4.7	2.0
Female	7.3	2.7	5.0	2.3	6.4	2.1	6.1	2.7

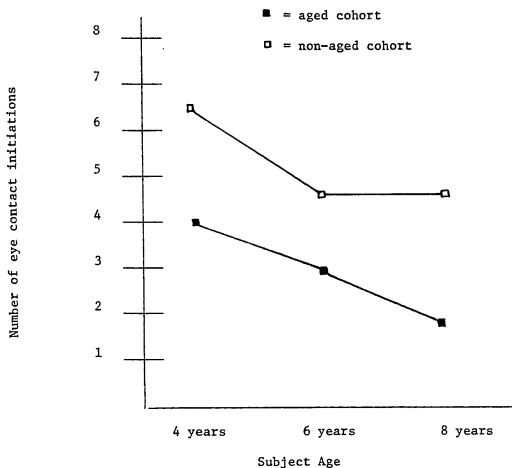


Figure 8. Mean number of initiations of eye contact by subjects toward cohorts as a function of cohort age and subject age.

by four year olds, six year olds and eight year olds ($p < .05$). On the other hand, the frequency of children's eye contact initiations toward non-aged cohorts only decreased significantly between four years and six years ($p < .05$). There was no significant difference between the number of times six and eight year olds initiated eye contact with non-aged cohorts.

There was also a significant interaction between subject sex and cohort age on frequency of initiation of eye contact scores, $F(1,143) = 4.35$, $p < .05$. Although both boys and girls initiated eye contact less frequently toward aged cohorts than toward non-aged cohorts, girls initiated eye contact toward aged adults significantly more often ($M = 3.3$) than did boys ($M = 2.6$). On the other hand, boys initiated eye contact more often toward younger cohorts ($M = 5.7$) than did girls ($M = 5.1$) (See Figure 9).

A subsidiary finding was that children initiated eye contact toward female cohorts more frequently ($M = 3.3$) than toward male cohorts ($M = 2.5$), $F(1,143) = 8.00$, $p < .001$. There was also a significant interaction between the effects of subject sex and cohort sex, $F(1,143) = 6.25$, $p < .01$. Children initiated eye contact more often with cohorts of the same sex than with cohorts of the opposite sex.

Verbal Interaction Measures

The analysis of the verbalizations of subjects during the first three minutes of puzzle play included the total number of words spoken by subjects, their mean clause length (linguistic complexity), and the number of appeals they made for assistance or verification from the cohort. Data from each measure of verbal interaction was analyzed using

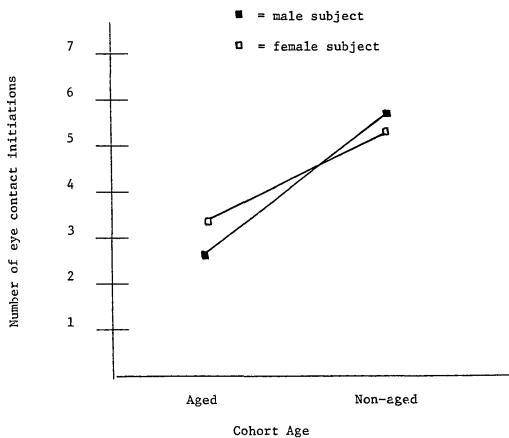


Figure 9. Mean number of initiationsof eye contact by subjects toward cohorts as a function of cohort age and subject sex.

a four-way analysis of variance (Cohort Age X Cohort Sex X Subject Age X Subject Sex). Although mean clause length was not affected by the age of the cohort, age of cohort was a significant main effect in the other verbal measures. Children who met with aged cohorts spoke less, initiated conversation less often, and appealed for assistance or verification less often compared to children who met with non-aged adults.

Number of words spoken. The number of words spoken by all children ranged between 0 and 69, with a mean of 14.1 words.

As Table 7 shows, children who met with aged adults spoke an average of 11.6 words during the initial three minutes of puzzle activity, while children who met with non-aged adults spoke an average of 16.3 words. This difference was statistically significant, $F(2,143) = 3.66$, $p < .05$.

A subsidiary finding was a significant interaction between subject age and subject sex, $F(2,143) = 3.11$, $p < .05$. Significantly more words were spoken by four and eight year old boys than by girls at those ages. However, six year old girls spoke significantly more words than six year old boys (Figure 10).

Number of verbal initiations. The frequency of children's initiations of conversation with adults of both ages ranged between zero and sixteen. Table 8 presents the mean number of initiations of conversation (as opposed to responses to the probes or questions of the cohorts) and the standard deviations for boys and girls at each age level with aged and non-aged men and women.

Children meeting with non-aged adults initiated conversations significantly more often ($M = 2.7$) than children who met with aged adults

Table 7
Means and Standard Deviations for Number of Words
Spoken by Subjects by Subject Age and Cohort Characteristics

Cohort	Age of Subject							
	4 years		6 years		8 years		Combined	
	M	SD	M	SD	M	SD	M	SD
Aged	7.4	10.3	13.3	15.2	14.0	16.4	11.6	14.3
Male	7.0	8.8	3.3	2.5	11.6	12.4	10.9	12.9
Female	7.8	11.9	7.5	9.9	16.5	19.8	12.3	15.7
Non-Aged	18.3	13.9	16.4	15.4	15.5	14.3	16.3	14.3
Male	21.3	14.9	13.1	14.9	18.4	14.5	17.6	14.8
Female	15.3	12.8	19.8	15.8	12.5	14.1	15.9	14.2

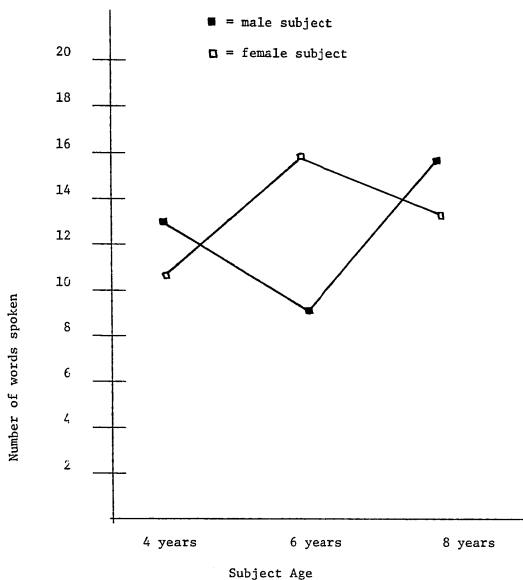


Figure 10. Mean number of words spoken by subjects to cohorts as a function of subject age and subject sex.

Table 8
Means and Standard Deviations for Frequency of Initiation
of Verbalization by Subject Age and Cohort Characteristics

Cohort	Age of Subject							
	4 years		6 years		8 years		Combined	
	M	SD	M	SD	M	SD	M	SD
Aged	1.1	2.7	1.6	2.3	1.4	2.2	1.3	2.3
Male	.9	2.9	1.3	2.5	.9	1.4	1.2	2.3
Female	1.3	2.7	1.4	2.2	2.3	2.5	1.5	2.2
Non-Aged	3.6	3.6	2.6	2.8	1.9	2.5	2.7	2.4
Male	4.4	4.5	2.1	2.9	2.3	2.5	2.9	3.5
Female	2.8	2.5	3.2	2.7	1.4	2.0	2.4	3.5

($M = 1.2$), $F(1,143) = 7.14$, $p < .01$. There were no other significant main effects or interactions on this measure.

Mean clause length. The four-way analysis of variance (Cohort Age X Cohort Sex X Subject Age X Subject Sex) of mean clause length did not yield any significant effects.

Number of appeals for assistance or verification. Table 9 presents the mean number of appeals for assistance or verification and the standard deviations for boys and girls at each age level. Children who met with non-aged cohorts appealed for assistance or verification more times ($M = .6$) than did children who interacted with aged cohorts ($M = .3$). This difference was statistically significant, $F(1,143) = 7.50$, $p < .01$.

The effect of subject age was also significant, $F(2,143) = 3.56$, $p < .05$. The results of pairwise comparisons indicated that four year olds appealed for assistance or verification to cohorts of both age groups significantly more often than did six year olds or eight year olds, $p < .05$. Scores of children in the two older groups did not differ significantly. There were no other significant main effects or interactions on this measure.

Correlations Among Measures of Children's Attitudes Toward the Aged

Correlations between behavioral measures. Correlations among the behavioral measures of attitudes toward the aged are presented in Table 10. There was a significant negative correlation between proxemic distance (the distance at which children seated themselves from the cohort) and frequency of initiation of eye contact, number of words spoken to the cohort, and the number of initiations of conversation by the child to the cohort. Thus, the less physical distance between children and adults,

Table 9
Means and Standard Deviations for Number of Appeals for
Assistance or Verification by Subject Age and Cohort
Characteristics

Cohort	Age of Subject							
	4 years		6 years		8 years		Combined	
	M	SD	M	SD	M	SD	M	SD
Aged	.29	.75	.29	.46	.25	.44	.28	.56
Male	.25	.36	.17	.39	.17	.39	.19	.58
Female	1.42	1.50	.42	.51	.33	.49	.36	.54
Non-Aged	1.04	1.16	.33	.56	.42	.72	.60	.89
Male	1.08	1.16	.25	.45	.50	.79	.61	.90
Female	1.00	1.20	.42	.67	2.00	3.30	.58	.91

Table 10
Intercorrelation Matrix for Behavioral Measures

Measure	1	2	3	4	5	6	7
1. Proxemic distance	--						
2. Eye contact initiation	-.40***						
3. Productivity	-.09	.69***					
4. No. of words	-.20**	.27***	.22**				
5. No. of verbal initiations	-.20**	.46***	.39***	.85***			
6. MCL	-.04	-.05	-.12	.73***	.43***		
7. No. of appeals	-.12	.15*	-.07	.47***	.56***	.32***	--

* $p < .05$.

** $p < .01$.

*** $p < .001$.

the more often children initiated verbal as well as non-verbal contact with them. However, physical closeness was not significantly related to mean clause length, appeals for assistance and their productivity on the puzzle task.

Frequency of initiation of eye contact with the cohort was positively and significantly correlated with the frequency of verbal interaction. The more often children began conversations with cohorts, the more they said (number of words). The more often they asked for assistance or verification, the more often they initiated eye contact with cohorts. However, while the quantity of verbal communication was related to the frequency of nonverbal contact, the complexity (mean clause length) of the verbal message was not. Frequency of eye contact was also positively and significantly correlated with productivity. The more puzzle pieces placed by the children the more frequently they initiated eye contact with adults.

Productivity was positively and significantly related not only to amount of nonverbal communication between children and cohorts, but also the amount of verbal communication. The more puzzle pieces placed by children, the more often they initiated conversation with cohorts and the more often they spoke. However, there was no significant correlation between productivity and mean clause length or the number of appeals by children for assistance or verification from the cohorts.

It is not surprising that the measures of verbal interaction were all positively and significantly intercorrelated. These measures included the total number of words spoken by children, frequency of initiation of conversation with cohorts, mean clause length and number of appeals

for assistance or verification.

Correlation between SASAP scores and behavioral measures.

Table 11 presents the correlations between children's scores on the social attitude scale (SASAP) and the behavioral measures of attitude for children who met with aged adults (experimental group) and with non-aged adults (control group). For children in the experimental group, significant correlations were predicted between their scores on the attitude scale and their actual behaviors toward aged cohorts. Children who showed significant levels of prejudice in their responses to the attitude scale were expected to distance themselves more from aged cohorts than children who scored lower on the SASAP. On the other hand, no significant correlations were expected between the attitude scale scores and behaviors of children in the control group, since their level of agist prejudice would not be expected to influence their behaviors toward non-aged adults with whom they met.

There was a significant positive correlation between scores on the SASAP and proxemic distance (the distance at which children seated themselves) from aged cohorts for children in all three age groups. These correlations for four, six and eight year olds were $\underline{r} = .72$, $p < .001$, $\underline{r} = .65$, $p < .001$ and $\underline{r} = .72$, $p < .001$, respectively. The higher the scores children obtained on the SASAP the farther they seated themselves from aged cohorts.

The higher their per cent score on the attitude scale, the fewer times children initiated eye contact with the aged cohort. There was a significant negative correlation between scores on the SASAP and the frequency of initiation of eye contact for children who met with aged

Table 11
Correlations Between SASAP Scores and Behavioral Measures

Group	Behavioral Measures						
	Proxemic Distance	Eye contact Initiation	Productivity	No. of Words	Verbal Init.	MCL	No. of Appeals
Experimental (Aged Cohort)							
Four years	.72***	-.39*	.41*	.12	.12	.10	.13
Six years	.65***	-.32*	-.03	-.26	-.24	-.24	-.17
Eight years	.72***	-.66***	-.16	-.42*	-.52**	-.44	-.14
Control (Non-aged Cohort)							
Four years	-.07	.01	.09	-.14	-.22	-.09	-.06
Six years	.17	-.14	-.16	-.16	-.13	-.08	-.07
Eight years	.14	.03	-.22	.17	.20	.16	.09

* $p < .05$

** $p < .01$

*** $p < .001$

cohorts in all three age groups, $r = .39$, $p < .05$ (for four year olds); $r = .32$, $p < .05$ (for six year olds); $r = .66$, $p < .001$ (for eight year olds). Thus, there was a significant correspondence between children's prejudice scores on the attitude scale and measures of their nonverbal communication with aged adults.

When the scores of subjects in all three age groups were pooled, neither the measure of productivity (number of puzzle pieces placed) nor any of the measures of verbal interaction (number of words, number of verbal initiations, mean clause length, or number of appeals for assistance or verification) were significantly correlated with scores on the attitude scale for children who met with aged cohorts in the experimental behavioral condition. However, examination of the scores of each age group indicated that among eight year olds who met with aged cohorts certain measures of verbal interaction (number of words, number of verbal initiations and mean clause length) had a significant negative correlation with SASAP scores. The correlation between attitude score and number of words spoken by the child was $-.42$, $p < .05$. The correlation between attitude score and number of verbal initiations was $-.52$, $p < .01$. The correlation between attitude scale score and mean clause length was $-.44$, $p < .05$.

In addition, among four year olds who met with aged cohorts there was a significant positive correlation between attitude scale score and productivity (number of puzzle pieces placed).

As predicted, there were no significant correlations between attitude scale scores and scores on any behavioral measures of agist prejudice for children in the control group who met with non-aged cohorts.

Level of Cognitive Maturity (Conservation Task)

Children who demonstrated conservation of number on all three transformations were considered capable of operational thought, and conversely, children who did not demonstrate conservation of number on all of the transformations were considered pre-operational. Among the four year old children ($n = 48$), only four were operational. Among eight year old subjects ($n = 48$) only two were preoperational, and all the rest were operational. Among the six year olds ($n = 48$), 16 children were preoperational and 32 demonstrated conservation of number.

The children in the six year old group were of primary interest since there was sufficient variability in their conservation scores to assess the relationship between the attainment of conservation (i.e., evidence of operational thought) and their scores on the social attitude scale (SASAP).

A score of 50 per cent on the SASAP indicated an equal number of prejudiced and non-prejudiced responses regarding the aged. Therefore, evidence of negative agist prejudice was operationally defined as more than 66.7 per cent of prejudiced responses on the SASAP. On the other hand, a score of fewer than 33.3 per cent of prejudiced responses was considered evidence of positive attitudes toward aged individuals. Children who responded with between 33.3 and 66.7 per cent of prejudiced responses were considered as having neutral or ambivalent opinions toward aged individuals.

A $2 \times 2 \chi^2$ test was performed on the number of six year olds at each level of cognitive function (preoperational and operational) who showed a clear attitude toward the aged as opposed to ambivalence or neutrality on the attitude scale (SASAP). The χ^2 test showed the difference between levels of prejudice for children at different levels of cognitive function to be significant, $\chi^2_Y (1) = 6.67, p < .01$ (Table 12). Of the 34 children who demonstrated definite positive or negative attitudes toward the aged

(i.e., responses demonstrating either positive or negative attitudes on two thirds or more of the SASAP questions), 79.4 per cent also showed evidence of operational thought. Of the 14 children whose feelings toward the aged were neutral or ambivalent 64.3 per cent responded at the preoperational level on the conservation task.

The data supported the prediction that children who demonstrated agist prejudice would also be likely to function at the concrete operational level cognitively, while children functioning at the preoperational level would be less likely to form a coherent attitude (positive or negative) toward aged adults.

Children's Direct Judgments of Cohorts

Hiring of cohort. When asked whether the cohort with whom they met should be hired for a job involving work with children, all children, regardless of the age of their assigned cohort, answered affirmatively.

Children were questioned further about the reason they thought the adult would be suitable for a job involving work with children. Their answers fell in two categories: reasons based on the positive personality attributes of the cohorts (niceness) and reasons reflecting positive appraisal of the abilities and knowledge of the cohorts. An example of a response stressing the personality of the cohort as a reason for hiring him was, "He would be good for the job because he is nice to me." An example of a response focusing on the ability of the cohort was, "She would be good because she knows how to help children. She knew how to do the puzzle with me."

Table 12
 Relationship Between Level of Cognitive Maturity and Evidence of
 Agist Attitude Formation Among Six Year Olds

Evidence of Agist Attitude Formation on SASAP	Level of Cognitive Maturity	
	Pre-Operational	Operational
Agist attitude evident (Scores above 66.7 % and below 33.3 %)	7	27
Neutral/Ambivalent (Scores between 33.3 % and 66.7 %)	9	5

Table 13 shows the comparison between types of reasons given for hiring aged cohorts and non-aged cohorts. Of those who explained why their cohort should be hired ($n = 113$), most children meeting with aged cohorts (80.7 per cent) rationalized hiring them because of their positive personality attributes, while most children meeting with non-aged cohorts (70.5 per cent) stressed the ability of their cohort and their knowledge as the reasons they would be suitable for the job. A χ^2 test, computed with Yates' correction, showed that the difference between the types of reasons for hiring aged and non-aged cohorts was significant, $\chi^2_{Y(1)} = 29.08, p < .001$.

Cohort return. At the conclusion of the session, children were also asked whether they would like to return to play with the same adult on another occasion, or whether they would prefer to meet with someone else. Four year olds were unanimous in their responses that they would like to return to play with the same cohort, regardless of the age of the adult with whom they had met. This was not true of older children. Table 14 shows that among six and eight year olds, only one child of the 48 (2 per cent) who met with non-aged cohorts said they would prefer to return to play with a different cohort. On the other hand, 16 (33 per cent) of the 48 six and eight year old children who met with aged cohorts said they would prefer to play with someone else on a different occasion. A χ^2 test computed with Yates' correction showed that this difference was statistically significant, $\chi^2_{Y(1)} = 14.01, p < .001$.

Correspondence between SASAP item and actual behavior. A question was included in the attitude scale (SASAP) regarding children's preferences

Table 13
 Relationship Between Reason for Hiring
 and Age of Cohort

Age of Cohort	Reason for Hiring	
	Personality	Ability
Aged	46	11
Non-Aged	18	43

Table 14
 Relationship Between Age of Cohort and Preference for
 Same or Different Cohort by Six and Eight Year Old Subjects

Age of Cohort	Preference	
	Same	Different
Aged	32	16
Non-Aged	47	1

for working on a puzzle with an aged or non-aged adult. The question asked, "Shari has a new puzzle. Which adult would she want to have help her with it?" Children's responses to that question were compared with their directly stated preferences to return on another occasion to play with the same cohort or a different adult. For children in the control group who met with non-aged cohorts, no significant correlation was expected between their responses to the attitude scale question and their actual preference for the same or different cohort. However, for the children in the experimental group who met with aged cohorts, a significant correspondence was expected between their responses to the attitude scale questions and their actual stated preference for the same or a different cohort.

As expected, for children who met with aged cohorts, responses to the attitude scale regarding choice of adult to work with on a puzzle corresponded to preferences to play again with the same adult or a different adult (See Table 15). Of the 72 subjects who met with aged cohorts, the responses of 34 were consistent; they either chose or rejected the aged adult in both situations. Thirty-six of the experimental group subjects showed prejudice on the attitude scale question but did not reject the aged adult in actual behavior. Only two children showed prejudice in their actual behavior but did not show prejudice in their response to the attitude scale item. This correspondence between response on the attitude scale and actual behavior in a similar situation was statistically significant, $\chi^2_Y(1) = 13.39$, $p < .001$. Of the 72 children in the control group who met with non-aged cohorts, all but

Table 15
 Relationship Between Preference for Return of Same or Different
 Cohort and Response to Similar Question on the SASAP, by Subjects
 in the Experimental Group

Choice of Cohort	Response to SASAP Question	
	Aged Adult	Non-Aged Adult
Different	2	14
Same	20	36

Note. The item on the SASAP stated, "Shari has a new puzzle. Which adult would she want to have help her with it?"

one said that they would like to return to meet with the same adult.

Frequency and Quality of Experience with Aged Individuals

Telephone interviews with mothers of subjects provided data on the frequency of children's experiences with aged individuals, the types of activities in which they engaged together, the role of the aged individual and the mothers' evaluations of their children's attitudes toward old people with whom they interacted regularly. Although mothers were free to respond with reference to any number of aged individuals, only responses regarding an individual over age 70 with whom the child had the most frequent contact during the previous year were tabulated.

All children were reported to have had contact with at least one aged adult during the previous year. Frequency of contact ranged between 2 and 365 times, with a median number of 36.2 contacts per year. A frequency distribution of the number of contacts per year with the child's prime elderly contact is presented in Table 16.

Multiple linear regression analyses were performed on the data to predict children's scores on the SASAP from variables specifying the frequency and quality of children's experiences with aged individuals. The results of these analyses are presented in Table 17. The role of the aged adult during contacts with the child was characterized as either "caregiver" or "social visitor" on the basis of mothers' reports. Aged adults who were reported to have had sole responsibility for the welfare of the child during any of their contacts were classified as caregivers. Aged adults who were reported to meet with the child only for social visits and never had authority or responsibility for caring for the child were operationally defined as social visitors. The activities in which the aged adult and child engaged during

Table 16
Frequency Distribution of Number of Contacts
per Year Between Child and Prime Aged Adult

Number of Annual Contacts	Number of Children	Cumulative Total
365 (Daily)	12	12
104 or more (Twice Weekly)	32	44
52 or more (Weekly)	24	68
24 or more (Bimonthly)	23	91
12 or more (Monthly)	27	118
6 or more (Semimonthly)	13	131
5 or less (Less than once every two months)	13	144

Table 17
Multiple Regression Results Predicting Score on SASAP and
Ability and Personality Subtests From Frequency and Quality
of Experience with Aged Individuals

Variable	Multiple R	R ²	R ² Increase
Total SASAP Score			
Role (of Old Person)	.41*	.17*	.17
Frequency of Contact (per year)	.47*	.22*	.05
Type of Activity (active vs. passive)	.47*	.22*	.00
Score on Ability Items			
Role (of Old Person)	.45*	.20*	.20
Frequency of Contact (per year)	.49*	.24*	.04
Type of Activity (active vs. passive)	.52*	.27*	.03
Score on Personality Items			
Frequency of Contact (per year)	.19*	.03*	.03
Type of Activity (active vs. passive)	.22*	.05*	.02
Role (of Old Person)	.24*	.01*	.00

*
p < .01.

their contacts were also analyzed. Activities which enabled the aged adult to demonstrate ability or effort or effectiveness were operationally defined as "active." These included going places together, reading or studying together, playing games, cooking, working, making things, sports. Activities in which the adult did not demonstrate effectiveness or initiative were operationally defined as "passive." These included visiting or chatting, eating together.

The first analysis indicated that the frequency of contact with an aged individual (number of contacts per year), the role of the aged individual during those contacts (caregiver vs. social visitor) and the types of activities in which the two engaged (active vs. passive), in linear combination, accounted for a significant amount of variation in the total scores on the SASAP, $r = -.47$, $p < .001$. The analyses also indicated that a major portion of the variability in the social attitude scale scores could be accounted for by one variable, the role of the aged individual, $r = -.41$, $p < .01$. Children whose primary contact with the aged included perceiving them in the role of caregiver, rather than just a social visitor, scored lower on the SASAP than children whose primary contact with the aged was social. This perception of role was more important in accounting for their scores on the attitude scale than the frequency of contact with the aged or whether they engaged in active or passive activities when together.

The second analysis indicated that the frequency of contact with an aged individual, the role of the aged individual during those contacts, and the types of activities in which the child and adult engaged together, in linear combination, accounted for a significant amount of the variation in scores on the ability items of the SASAP, $r = -.52$, $p < .001$. These

analyses indicated once again, that a major portion of the variability in scores on the ability items of the attitudinal scale could be accounted for by the role of the aged individual in those encounters, $r = -.45$, $p < .001$. Children whose primary contact with the aged included perceiving them in the role of caregiver, not merely as a social visitor, scored lower on the ability items of the social attitude scale (i.e., showed less negative stereotypes regarding the abilities of old people) than children whose primary contact with the aged was purely social. Once again, this perception of the role of the old person was more important in accounting for children's scores on the ability items of the SASAP than the frequency of contact with aged individuals or whether they engaged in active or passive activities when together.

The third analysis indicated that the frequency of contact with an aged individual, the role of the aged individual during those contacts and the types of activities in which the child and adult engaged together, in linear combination, accounted for a significant portion of the variability in scores on the personality items of the SASAP, $r = -.24$, $p < .01$. The analyses indicated that, in this case, a significant portion of the variability in scores on the personality items of the scale could be accounted for by the frequency of contact with the aged, $r = -.19$, $p < .01$. Thus, frequency of contact with the aged was more important than either the type of activities in which the old person engaged or the role of the aged individual in accounting for children's scores on the personality items of the SASAP. The more frequent their contact with old people, the more positive their attitudes toward the aged on

the personality items of SASAP.

Correlations Between Scores on Dependent Measures and Demographic Data

Table 18 presents the correlations between the dependent variables and the demographic information collected in the parent interview. A copy of the parent interview questionnaire is included in Appendix 3.

It seems clear that neither the age of the child's parent nor the age of the old person with whom the child maintains contact correlated significantly with the dependent variables. However, the frequency of contact, the proximity of the residence of the old person to the child's home, the role of the old person and the types of activities in which the child and old person engaged together correlated significantly with the dependent variables measured. It appears that the closer the old person lives to the child, the more frequently they meet, the more responsibility the old person has for the care of the child, the more active their pastimes together, then the less stereotyped is the child's attitude toward aged individuals in general. In this study, this positive attitude is expressed particularly on the attitude scale, the measure of proxemic distance and through initiation of eye contact.

Finally, during the telephone interview, mothers were asked to rate their child's attitude toward the aged adult with whom they had contact on a five point scale (very positive to very negative). These ratings correlated significantly with their children's scores on the social attitude scale, $r = .50$, $p < .001$. Thus, judgments made by mothers regarding their children's attitudes toward particular old people with whom they had contact corresponded to the attitudes expressed by children on the social attitude scale (SASAP).

Table 18
Correlations Between Dependent Variables and Demographic Data

Dependent Variables	Demographic Variables					
	Age of Parent	Age of Old Person	Frequency of Contact	Proximity of Residence	Role	Type of Activity
Score on SASAP	.13	.12	-.38***	.35***	-.41***	-.30***
Proxemic Distance	.07	.13	-.17*	.17*	-.15*	-.01
Productivity	.08	-.09	.04	-.09	.13	-.06
No. of Words Spoken	.09	-.06	.03	-.14	.14	.13
Freq. of Initiation of Conversation	.07	-.07	.19*	-.19*	.21**	.07
Mean Clause Length	.08	.07	-.05	-.05	.08	.06
No. of Appeals	-.12	-.05	.08	-.09	.09	.05
Freq. of Initiation of Eye Contact	-.13	-.06	.18*	-.33***	.15*	-.09

* $p < .05$

** $p < .01$

*** $p < .001$

Findings for proposed hypotheses

1. It was predicted that children would show negative stereotypes toward the aged. These negative stereotypes would be reflected in a significant per cent of prejudiced responses on the social attitude scale (SASAP), as well as greater distancing from aged cohorts, as compared with non-aged cohorts, on the behavioral measures of social attitude. The analyses indicated that when the scores of four, six and eight year old children were pooled, their mean score was significantly greater than chance on the social attitude scale, demonstrating that children in these age groups do show a significant amount of prejudice against the aged. Analyses of children's scores on most of the behavioral measures also supported the prediction that children would distance themselves more from aged than non-aged adults in actual interactions with them. This greater social distancing was reflected in children's seating themselves farther from aged cohorts than non-aged cohorts, initiating eye contact less frequently with aged cohorts than with non-aged cohorts, and in fewer words spoken, fewer initiations of conversation and fewer appeals for assistance or verification made to aged cohorts than to non-aged cohorts. The number of pieces of a puzzle placed and the complexity of their verbal communications with the adult cohorts were not affected by the cohort's age.

2. It was predicted that scores on the SASAP would increase significantly with the age of the subject. The analyses indicated that the scores of six and eight year olds were significantly higher than those of four year olds. The mean scores of the two older groups did not differ significantly from each other. In addition, the mean score of the four year old group did not differ significantly from chance. However, the

mean scores of the six and eight year old groups were significantly greater than chance.

3. It was predicted that children would show more prejudice toward old men than toward old women, by scoring a higher mean per cent of prejudiced responses on the subset of questions whose target was male than those questions with a female target. The gender of the target photograph was significant, but children gave a significantly higher per cent of prejudiced responses regarding females than males.

4. A significant interaction effect was predicted for the effect of subject age and cohort age for all behavioral measures. Children from all age groups initiated eye contact more frequently toward non-aged cohorts than toward aged cohorts, however the distinction was most pronounced in eight year olds. Not only did they initiate eye contact less frequently with aged cohorts, but they also initiated eye contact more frequently with non-aged cohorts than children in the younger two age groups. The hypothesis was not supported by the data with regard to proxemic distance or productivity. Older children did not make more differential responses toward cohorts of different ages than did younger subjects on the measures of proxemic distance and productivity. Neither did the data support a significant age of subject by age of cohort interaction for any of the measures of verbal interaction (i.e., number of words, number of verbal initiations, number of appeals, mean clause length.)

5. A significant age of cohort by sex of cohort interaction was predicted for each of the behavioral measures. It was expected that children would demonstrate significantly less positive behaviors toward

aged male cohorts than toward aged female cohorts, but that there would be no such significant effect for younger cohorts. The only significant age of cohort by sex of cohort interaction among the behavioral measures was that of proxemic distance. Children sat equidistant from old men and young men, although they sat significantly closer to young women than to old women.

6. A significant three-way interaction between the effects of age of subject, age of cohort and sex of cohort was predicted for each of the behavioral measures. The analyses did not support these hypotheses.

7. It was predicted that scores on the attitude scale (SASAP) of children who met with aged cohorts would correlate negatively and significantly with scores on the behavioral measures of attitude toward the aged, including frequency of eye contact initiation, frequency, complexity and content of verbal interaction, and productivity (number of puzzle pieces placed). It was predicted that scores on the SASAP would correlate positively and significantly with scores on the behavioral measure of proxemic distance for children who met with aged cohorts. No significant correlations were predicted for children who met with non-aged cohorts (the control group). The analyses indicated that the frequency of eye contact initiation by children in the experimental group (aged cohort) did correlate negatively and significantly with children's scores on the attitude scale. Scores on the proxemic distance measure were positively and significantly correlated with scores on the social attitude scale for children who met with aged cohorts. No other correlations between behavioral measures and scores on the attitude scale proved significant for children who met with aged cohorts. There were no

significant correlations between SASAP scores and scores for behavioral measures for the control group.

8. It was predicted that children's scores on the number conservation task would increase significantly with subject's age. The data supported this hypothesis.

9. It was predicted that there would be a significant relationship between evidence of children's level of cognitive function as measured by the number conservation task and the degree of prejudice they demonstrated on the attitude scale. It was expected that among six year olds, children who demonstrated agist prejudice would be more likely to be capable of operational thought than children who did not show agist prejudice. This hypothesis was supported by the data.

10. It was predicted that the frequency and quality of subjects' experience with aged individuals would negatively and significantly correlate with scores on the attitude scale. The analyses indicated that the frequency of contact with an aged individual, the role of the aged individual and the types of activities in which the two engaged, in linear combination, accounted for a significant amount of the variation in scores on the attitude scale (SASAP). The analyses also indicated that a major portion of the variability in the social attitude scores could be accounted for by one variable, the role of the aged individual (social visitor vs. caretaker) in their interaction with the child.

It was predicted that frequency and quality of their experience with aged individuals would negatively and significantly correlate with children's scores on the items regarding the abilities of targets on the SASAP. The analyses indicated that the frequency of contact

with an aged individual, the role of the aged individual and the types of activities in which the two engaged, in linear combination, accounted for a significant amount of the variation in score for questions about the abilities of targets on the SASAP. The analyses indicated as well that a major portion of the variability in the scores could be accounted for by the role of the aged individual (social visitor vs. caregiver) in their interaction with the child.

It was predicted that frequency and quality of their experience with the aged would negatively and significantly correlate with their scores regarding the personalities of the targets on the SASAP. The analyses indicated that the frequency of contact with an aged individual, the role of the aged individual, and the types of activities in which the two engaged together, in linear combination, accounted for a significant amount of the variation in scores on the questions about the personalities of targets on the SASAP. In this case, the analyses indicated that the frequency of contact with aged individuals and the type of activity in which the child and adult engage together were more important than the role of the aged adult in predicting the child's score on the personality items of the SASAP.

CHAPTER VI

Discussion

The aim of the present study was to determine whether children between the ages of four and eight years already hold and demonstrate the negative stereotypes and attitudes regarding aged adults which are common among older children, adolescents and adults. The development of attitudes toward the aged, as reflected in children's responses to an attitude scale as well as in their actual behaviors in interactions with old people was studied. In addition, both the effects of children's level of cognitive development and the frequency and quality of their contact with old people were related to the children's attitudes toward the aged.

Attitudes of Young Children Toward the Aged

Results of the present study indicated that when the scores of all children between the ages of four and eight years were pooled significant levels of agist prejudice in their responses to the Social Attitude Scale of Agist Prejudice (SASAP) were demonstrated. Prejudice against the aged was also reflected in the overt behaviors of subjects toward aged adults compared to non-aged adults. Children in all three age groups sat significantly farther from aged adults than from non-aged adults, and children initiated eye contact toward aged adults significantly less frequently than toward non-aged adults. Analyses of the verbal interactions of children with adults showed that compared to children who met with non-aged adults, in all three age groups, children who met with aged adults spoke significantly fewer words, initiated conversation significantly less often, and appealed to the adults significantly fewer times for assistance

or verification. Based on these findings, it may be concluded that children between the ages of four and eight demonstrate agist prejudice and hold negative attitudes toward the aged.

Furthermore, results indicated that when children compared the abilities and personality characteristics of aged women with those of non-aged women on the SASAP, they demonstrated significantly more agist prejudice than when they compared ability and personality traits of aged men with those of non-aged men. Children also sat significantly farther from aged female cohorts than from non-aged female cohorts, although there was no significant difference between the proxemic distance scores for aged and non-aged male cohorts. One may therefore conclude that in both evaluation and behavior children in this sample made greater distinctions between aged and non-aged women than between aged and non-aged men. These findings suggest that children between the ages of four and eight have not only absorbed the premium on youth predominant in contemporary society, but they have also recognized that some believe it applies more harshly to women than to men. It may be argued that the differential effects of age on the way men and women are evaluated is yet another reflection of prevailing sexist attitudes. It has been argued that women's status is much more dependent on appearance than is men's. To the extent that women are perceived as sex objects, their status depends on attractive appearance, which in turn is determined by youthfulness. On the other hand, it has been suggested that the dominant criteria by which men are judged are power and effectiveness, which are not as closely aligned with attractiveness or youth. For example, prevailing social stereotypes for males include the images of an elder statesman, or a distinguished chairman of the board who is greying

at the temples. The implication is that because of their constricted social roles women may suffer a greater loss of status with the decrease in perceived social attractiveness and reproductive ability which accompanies advancing age than do men.

Results of the SASAP showed that across target sex, subjects indicated significantly more prejudice on questions about the personalities of old people than on questions about their abilities. On questions about the personality traits of adults, more agist prejudice was demonstrated when the targets were women than when they were men. However, when children were asked to make judgments about adults' abilities there was no significant difference between the per cent of agist judgments made when the targets were males or when they were females.

Findings from the behavioral measures also showed the attention paid to personality variables by children in their evaluation of the aged. After working with an aged or non-aged adult on a jigsaw puzzle, subjects were asked whether the adult with whom they met should be hired for a job involving work with children. All children, regardless of the age of their assigned cohort, responded affirmatively. When questioned further about their rationale for hiring the adult, children's responses varied with the age of the adult. Among children who explained why their cohort should be hired, 80.7 per cent of the children meeting with aged cohorts rationalized hiring them because of their positive personality attributes, while 70.5 per cent of the children meeting with non-aged cohorts stressed the ability and knowledge of their cohort as the reasons they would be suitable for the job.

It is puzzling that although children showed significant levels of prejudice about the personalities of old people on the SASAP their rationale for hiring the aged individual with whom they had worked was based on a positive evaluation of his or her personality attributes. One can speculate that in forming stereotypes about the aged children begin with the underlying assumption that the aged are less effective than younger adults. Given the assumption that old people are generally incapable the only possible rationale for hiring them would be positive personality attributes. Variation in children's level of prejudice would therefore be expressed in judgments about the personalities of the aged.

Results also indicated that when the personalities of aged women were compared to those of non-aged women more agist prejudice was demonstrated than when a similar comparison was made between the personalities of aged and non-aged men. These findings further support the conclusion that agist stereotypes and prejudices are more rigorously applied to women than to men.

Conclusions based on present findings regarding differential behaviors toward aged and non-aged adults must be limited to the school context in which cohorts met with children. Currently, schools are not common places for children to find elderly people. It is possible that children's placing themselves at a greater social distance from aged than non-aged adults may have been a reflection of their lack of familiarity with old people in a school setting, rather than simply their attitudes toward old people. Further research relating children's expressed attitudes to their behaviors in other contexts (where they are more familiar with participation by the elderly) is necessary.

Developmental Sequence for the Formation of Attitudes Toward the Aged

Although results of the present study indicated that across age levels children gave a significant per cent of responses on the attitude scale

which showed prejudice against the aged, the level of prejudice differed significantly between age levels. The mean score of the four year old group did not differ significantly from chance, and therefore did not indicate a significant amount of agist prejudice. However, the mean scores of the six and eight year old groups were significantly greater than chance and therefore indicated a statistically significant amount of prejudice against the aged. SASAP scores of six and eight year olds were significantly higher than those of four year olds, but the scores of the two older groups did not differ significantly from each other. It therefore may be concluded that most children younger than six years did not show agist prejudice. Expression of negative attitudes toward the aged on the attitude scale became evident among six year olds, and these negative attitudes were also evident among eight year olds.

A subsidiary finding was that when age groups were pooled there was no significant difference between the scores of boys and girls on the SASAP, although there was a significant difference in scores between six year old boys and girls. Six year old boys demonstrated significantly more prejudice on the SASAP than did girls. There was a linear increase in mean per cent score with age for girls. Boys' scores increased significantly between four and six years and then decreased slightly for eight year olds. However, the mean per cent scores of eight year old boys were still significantly higher than those of four year old boys. It is not clear why the scores of six year old boys peaked so dramatically. These findings may be related to an uncontrolled intervening variable or to the transitional nature of this period in the emergence of agist attitudes.

The responses of children at each age level to questions about the abilities of the aged (compared to non-aged adults) were analyzed separately from their judgments about the personalities of the aged. Results indicated that the per cent of prejudiced responses to questions about the abilities of the aged

increased significantly from four years (when a significant level of agist prejudice was not expressed) to six years (when children gave a significant per cent of answers reflecting prejudice against the aged). There was no significant difference between the scores of six and eight year olds; eight year olds also indicated a significant level of prejudice regarding the abilities of aged individuals. There was a significant increase in the per cent of prejudiced responses to questions about the personalities of old people with each increase in subject age. Consequently, while both four and six year olds showed similar levels of prejudice on questions about the abilities and personalities of old people, eight year olds showed significantly more prejudice about the personalities of the aged than about their abilities. Findings seem to indicate that four year olds did not show negative attitudes toward the aged on the attitude scale, but by age six children expressed negative stereotypes about the abilities and personalities of old people. Once agist prejudice was expressed (by six year olds) children demonstrated a significant amount of prejudice about the abilities and personalities of both aged men and women. However, older children (eight year olds) showed even more prejudice about the personalities of old people than about their abilities, particularly when the targets were women. It seems that as children grow older not only do they express stereotypes about the aged more readily, but these negative evaluations become more focused and their basis becomes more clearly defined.

Children's actual interactions with aged and non-aged adults were observed and compared. As noted previously, children at all three age levels sat significantly farther from aged adults and initiated eye contact toward aged adults significantly less frequently than toward non-aged adults. At all three age levels children who met with aged adults spoke significantly fewer words, initiated conversation significantly less often and appealed to adults

significantly fewer times for assistance or verification than children who met with non-aged adults. These differential responses indicated that at all three age levels children perceived the relevant cues which distinguish aged from non-aged adults, and responded differentially to them. Although it was not intended as a test of agist awareness, evidence from Pilot Study I (Photograph Reliability Test) also suggested that four year olds have begun to recognize certain characteristics which distinguish aged from non-aged adults. In Pilot Study I, children were asked to judge which pictured adult in pairs of photographs was older. Although four year olds were generally able to make age distinctions (their mean per cent of correct responses was 76 per cent), six and eight year olds distinguished aged from non-aged adults with significantly greater consistency (each group made 96 per cent correct responses). Thus, the ability to distinguish group members from non-members (aged from non-aged adults), a cognitive precursor to the development of consistent attitudes toward group members, is seen to emerge by age four although it continues to develop. By age six children seemed capable of consistently differentiating aged from non-aged adults. It was at this age that they also began to express agist prejudice. While the behaviors of four year olds reflected greater social distancing from aged adults than non-aged adults (similar to older children) they did not express the same negative attitudes toward the aged as did older children. One possible explanation is that these behaviors may have different meanings at different ages. For example, in younger children greater social distancing may express respect or awe rather than revulsion or shunning.

In summary, the data indicated that children's negative attitudes toward the aged (compared to their evaluations of non-aged adults) were reflected in both the attitude scale responses and behaviors of six and eight year olds.

However, although four year olds did not show agist prejudice in their responses to the attitude scale, their behaviors did show an awareness of the distinction between aged and non-aged adults and an attempt to distance themselves farther from aged adults than from non-aged adults.

Although it was predicted that the demonstration of agist prejudice on all the behavioral measures would increase with children's age as the SASAF scores did, only the initiation of eye contact scores supported this hypothesis. Children from all three age groups initiated eye contact more frequently toward non-aged cohorts than toward aged cohorts; however, the distinction was most pronounced among eight year olds. Older children did not make more differential responses based on cohort's age than did younger subjects on the measures of proxemic distance and productivity. Neither did the data support a significant age of subject by age of cohort interaction for any of the measures of verbal interaction (i.e., number of words spoken, number of verbal initiations, number of appeals, mean clause length). One can speculate that the experimental situation itself limited the variability in these behaviors. For example, children prejudiced against aged individuals seated themselves farther from aged individuals than non-prejudiced children. However, the necessity of remaining close enough to share the puzzle actually limited the distance at which they could seat themselves from the cohort. Therefore, despite an increase in agist prejudice with age shown on the SASAF, children were prevented from expressing increased distancing in their behavior. The children's intense concentration on completing their puzzle may

have limited the variability in their verbal interaction scores. Most children in all three age groups responded only perfunctorily to the verbal probes of the cohorts, and nearly all their initiations of conversation were task oriented. Children in all three age groups who met with aged cohorts engaged in verbal interaction less frequently than children who met with non-aged cohorts. However, even children who wished to place greater social distance between themselves and the aged cohort may have felt constrained to respond to the verbal probes of the cohorts because to refrain from doing so would have been rude.

Results of the present study which outlined changes in the expression of children's attitudes toward the aged with increasing age closely paralleled findings on the development of such intergroup attitudes as sexism and racial prejudice. Investigators of other intergroup attitudes (including Goodman, 1952; Proshansky, 1966; Katz, 1976) have characterized attitude development as occurring three main phases; awareness of intergroup differences (when children begin to evaluate group members from non-members), intergroup orientation (when children begin to evaluate group members and to elaborate and differentiate their discriminating characteristics) and attitude consolidation (characterized by the greater differentiation, elaboration and integration of beliefs, feelings and behavioral tendencies). Previous research has indicated that awareness of racial and sex differences is established by age three or four, with awareness of ethnic and religious differences appearing slightly later (Proshansky, 1966; Katz, 1976). Proshansky suggested that the lesser saliency of the distinguishing cues for ethnic and religious group membership may be the reason that awareness of these intergroup distinctions appears slightly later than

awareness of race or sex. Ambiguous or less salient cues may also explain why, although begun by age four, agist awareness does not seem to be consistently demonstrated until about six years.

Proshansky (1966) noted that an ethnic or racial orientation develops between the ages of four and seven or eight years. Children become increasingly aware of racial and other kinds of ethnic group differences and not only become increasingly susceptible to classifying themselves and others in terms of group membership, but also tend to evaluate others on the basis of group membership. For example, there is evidence that once children learn to associate the color white with good and black with bad they in turn apply these evaluations to black and white figures, including people. Studies of preschool children employing doll preference and picture preference tests have shown that the connotations of black and white transfer to evaluations of dolls and figures. White figures were associated with positive adjectives and black figures with negative ones (Penninger and Williams, 1966; Clark and Clark, 1947; Stahler, Johnson, Berke and Barker, 1969).

Age concepts also seem to follow a pattern of development comprised of discrimination of group differences followed by the emergence of attitudes. Even before starting school children were found to assign ages to figures in drawings (Britton and Britton, 1969). By ages five and six, they associated "old" with physical decline and death (Treybig, 1974). Only during the school years were particular personality characteristics attributed to particular ages (Britton and Britton, 1969; Hickey, Hickey and Kalish, 1968; Hickey and Kalish, 1963).

Results of the present study also indicated that the ability to distinguish aged from non-aged adults precedes agist attitude formation. Four year olds began to distinguish between aged and non-aged people, yet did

not express negative attitudes toward the elderly. Such negative attitudes only become evident by six years. However, once children regularly differentiated aged from non-aged adults and responded differentially to each group (approximately six years), they also associated the negative connotations of "oldness" prevalent in society, and they expressed negative stereotypes about the abilities and personalities of the aged. As with the emergence of agist awareness, this phase in the development of agist prejudice appeared slightly later than the comparable stage in the development of racial prejudice.

Previous research on the development of other intergroup attitudes in children has emphasized that the final phase in attitude development is characterized by greater integration of beliefs, feelings and behavioral tendencies. These individuals (Proshansky, 1966; Katz, 1976) argued that the coherence of the cognitive, affective and behavioral components is what distinguishes an ethnic or racial orientation from a crystalized attitude. Katz suggested that this phase continues through adolescence, as attitudes continue to develop and therefore are susceptible to change.

Relationship Between Affective, Cognitive and Behavioral Measures of Attitude Toward the Aged

Analysis of the relationship between the affective, cognitive and behavioral measures of children's attitudes toward the aged was included in the present research for two reasons. As noted in the review of the literature, other studies of children's attitudes have generally assumed a one-to-one correspondence between their responses to an attitude scale and their behaviors in the absence of supporting evidence. However, the few studies which attempted to compare attitude scale performance with

children's actual behavior toward members of other groups did not obtain consistent results. Furthermore, children's responses to an attitude index were not compared to children's actual behavior in a similar situation. One aim of the present research was to study the relationship between children's responses to an attitude scale and their actual behavior in a comparable social situation.

Secondly, investigators of the development of other intergroup attitudes have suggested that with increasing age there is an increase in the consistency between the affective, cognitive and behavioral components of children's attitudes (Proshansky, 1966; Katz, 1976). The cross-sectional nature of the present research was intended to provide an opportunity to observe whether the attitudes of older children toward the aged are more coherent than those of younger children.

Scores from the attitude scale which was designed to elicit children's beliefs and feelings regarding the aged were compared with scores on the behavioral measures of children's interactions with aged and non-aged adults.

Significant correlations were predicted between the attitude scale scores of children in the experimental group, who met with aged cohorts, and their actual behaviors. Children who showed significant levels of prejudice in their responses to the attitude scale were expected to place themselves at a greater social distance from aged cohorts than children who scored lower on the SASAP. On the other hand, no significant correlations were expected between the attitude scale scores and behaviors of children in the control group, since their level of racist prejudice would not be expected to influence their behaviors toward the non-aged adults with whom they met.

Results indicated a significant positive correlation between scores on the SASAP and proxemic distance (the distance at which children seated

themselves from aged cohorts) for children in all three age groups. The higher the scores children obtained on the SASAP, the farther they seated themselves from aged cohorts. The higher their per cent of prejudiced answers on the attitude scale, the fewer times children in all three age groups initiated eye contact with aged cohorts. Thus, there was a significant correspondence between children's prejudice scores on the attitude scale and measures of their nonverbal communication with aged adults.

Across all three age levels, neither the measure of productivity (number of puzzle pieces placed) nor any of the measures of verbal interaction (number of words, number of verbal initiations, mean clause length or number of appeals for assistance or verification) were significantly correlated with scores on the attitude scale for children who met with aged cohorts. It is unclear why no correlation existed between these scores. As suggested earlier, perhaps the constraints of the experimental situation limited the variability in the behavioral scores and the relationship between them.

Mothers of subjects were interviewed about their children's experience with aged adults. The telephone interview ended with a question asking mothers to rate their children's attitudes toward the aged adult with whom they had regular contact, on a five point scale. These ratings correlated positively and significantly with children's scores on the social attitude scale. Judgments made by mothers regarding their children's attitudes toward particular old people with whom they had contact corresponded to the attitudes expressed by the children on the social attitude scale. These findings may be interpreted as an indication that children's feelings about aged individuals (as perceived by their mothers) corresponded to their attitudes toward the aged as a group, as measured on the attitude scale.

Children's responses to an attitude scale item were compared with their actual behavior in a similar situation. A question on the SASAP asked whether a child would choose to complete a puzzle with an aged or non-aged adult. After completing a puzzle with an aged or non-aged adult children were asked whether they would prefer to return to play with the same cohort or a different one. It was expected that there would be consistency between children's expressed attitudes and their behaviors toward aged adults. If children's responses to the SASAP and the behavioral measure did not agree it was expected that negative attitudes would be less likely to be expressed in the actual interaction with an aged cohort than in response to the attitude scale. Results showed that of the 72 children who met with aged cohorts only two showed negative attitudes in their actual behavior without also expressing them on the attitude scale. They stated that they preferred to play with a different cohort on another occasion but that a child would choose to work on a puzzle with an old person. Of the remainder (70 children), 34 responded consistently by either choosing or rejecting the aged adult in both situations, while 36 children showed prejudice in their response to the attitude scale item but not in their actual behavior. Thus, children either showed consistency between their judgments on an attitude scale and their actual behaviors or, where expressed attitude and behavior differed, children were more likely to express prejudice indirectly than in face-to-face contact.

The results of the present study supported other findings which related children's attitudes to their actual intergroup behavior. Like the present research, other studies on the relationship between children's attitudinal judgments and their overt behaviors have also

found either consistency or, where expressed attitude and behaviors differed, a tendency by children to express prejudice indirectly but not in face-to-face contact. For example, Stabler, Zeig and Rembold (1976) found a significant positive correlation between preschoolers' attitudes toward the colors black and white and their behaviors toward black and white children. Mussen's (1950) study of elementary school boys in an inter-racial camp also showed that boys who revealed a greater degree of prejudice in the behavioral situation had shown a greater degree of prejudice on the attitude scale. Using a sociometric technique, J.H. Criswell (1939) showed that prejudice may affect fifth graders' choice of friends. On the other hand, although Rosner's (1954) sample of white northern twelve year olds expressed racial feelings these attitudes were not expressed in their behaviors. In explaining results such as Rosner's, Porter (1971) suggested that it is easier to express prejudice indirectly, or when the target is not present (e.g., on an attitude scale) than in face-to-face contact. In the present study, children may have felt freer to respond negatively regarding a hypothetical old person than the real aged individual whom they had just met.

When the correlation between attitude scale scores and behavioral measures were compared between age levels results showed that for eight year olds who met with aged cohorts some measures of verbal interaction (number of words, number of verbal initiations and mean clause length) showed a significant negative correlation with SASAP scores. There was no significant correlation between these scores for younger children. Among eight year olds in the experimental group, the more prejudice shown in their responses to the attitude scale the fewer words they

spoke, the less frequently they initiated conversation with the aged adult and the less complex were their verbalizations. Although there was not an increase in the strength of the correlations between the other behavioral measures and the SASAF with subjects' age, these results supported the contention that once children developed an attitudinal orientation toward another group there was a tendency over time to establish greater consistency among the constellation of beliefs, feelings and behaviors toward group members. According to Katz (1976) this process of attitude crystalization continues through adolescence. Although six and eight year olds in the present sample may have begun to establish an agist orientation, their attitudes toward the aged do not seem to be fully fashioned. Further research is necessary to determine whether this trend continues among older children.

Parallels Between Level of Cognitive Development and Agist Attitude Formation

The classic Piagetian number conservation task was included in the present study as a measure of children's level of cognitive maturity. Inclusion of this task served as a first step in assessing the relationship between children's level of cognitive development and the development of their attitudes toward the aged. However, it must be emphasized that drawing conclusions about the relationship between agist attitude formation and cognitive maturity on the basis of a single measure would be premature. Piaget himself has noted the existence of several phenomena which make it impossible to assess level of cognitive development on the basis of any single cognitive task. Ginsburg and

Opper (1979) have summarized these reasons. They noted that the rate of progression through the stages of development varies considerably within and among cultures. Furthermore, research has shown that although extreme discrepancies between stage levels in different cognitive areas are rare, children are not always in the same stage of development with regard to different areas of thought. Children even display different levels of achievement on problems involving similar mental operations. Piaget has referred to this phenomenon as horizontal decalage. The difficulty in determining the precise level of cognitive maturity derives from the continuous nature of the developmental process. Piaget's stages only describe salient points rather than static plateaus in a fluid developmental process which is the product of the interaction of both maturation and experience. For the above reasons, at best, results of the present study only showed the relationship between demonstration of number conservation and the expression of agist attitudes. However, present findings suggest topics for further research, including a general model relating cognition and attitude formation. Considerations about such a model will be proposed later in this chapter.

Results of the present study indicated that among four year olds ($n = 48$) only four were operational on the number conservation task. Among eight year olds ($n = 48$) only two were preoperational and the rest were operational. Among six year olds ($n = 48$), 16 were preoperational and 32 were operational with regard to conservation of number. The variability in the conservation scores of the six year olds as well as findings from the attitude scale that six year olds had begun to express attitudes toward the aged provided an opportunity to assess

the relationship between attainment of number conservation (one form of evidence of operational thought) and their scores on the social attitude scale.

Among six year olds who demonstrated a high level of agist prejudice (operationally defined as prejudiced responses on two thirds or more of the SASAP questions), 89.3 per cent also showed evidence of operational thought. Of the 14 children whose feelings toward the aged were neutral or ambivalent, 64.3 per cent responded at the preoperational level. The data supported the prediction that children who clearly expressed attitudes (either positive or negative) toward the aged would also be more likely to be capable of demonstrating operational thought, while children functioning at the preoperational level would be less likely to express a clearly articulated attitude (positive or negative) toward aged adults.

Considerations About a General Model Relating Cognitive Maturity and Attitude Formation

Theorists in the area of social cognition (Katz, 1976; Flavell, 1966) have contended that children's percepts and concepts about people follow the same rules as their perceptions and cognitions about other kinds of stimuli. According to Flavell, the overall level of the child's intellectual development operates like a 'g' factor in specific content areas to determine in part his conceptual structuring of these areas. For example, role taking ability has been shown to correlate with other cognitive abilities. According to Piaget, the ability to make social inferences is dependent on the development of logical structures of thought that permit the child to "decenter" from his own intuitively derived view of reality to recognition of the existence of multiple perspectives of reality. The

presence or absence of the child's ability to decenter is reflected not only in his performance on perceptual perspective taking tasks which involve physical stimuli (e.g., Piaget's classic three mountain task) but also those tasks which require cognitive role-taking (e.g., the adjustment of communication to the needs of the listener) and motivational role-taking (e.g., sensitivity to the inner motivations and intentions of others in making moral judgments and in judging psychological causality) (Piaget, 1926, 1928, 1932; Flavell, 1966a, 1966b, 1963). Findings consistent with those of Piaget and Flavell have been reported by others such as Swinson (1966), who found significant correlations between children's role-taking skills and their performance on several of Piaget's concrete operational tasks. Kohlberg (1963) found parallels between stages in children's concept development for social and physical objects. Muuss (1961) found a significant transfer effect between the learning of social causality and the understanding of physical causality. Level of cognitive function has also been found to be related to such areas as the development of religious thought (Goldman, 1965; Elkind, 1961, 1962, 1963) and geopolitical concepts (Jahoda, 1964; Piaget and Weil, 1951).

Cognitive developmental theory assumes that at each stage of development the logical rules and reasoning processes are qualitatively different from those used in preceeding and succeeding stages. It is therefore reasonable, as Katz (1976) has suggested, that there is a time in the life of the child when the seemingly illogical reasoning processes associated with prejudicial attitudes are quite normal, for they coincide with the thought processes characteristic

of early levels of cognitive maturation. The present findings suggested that there is a period when children are not cognitively mature enough to show prejudiced attitudes.

According to Piaget (1968), preoperational thought is characterized by the child's centration on a single striking feature of the object. Children at this stage tend to focus on a limited amount of the information available. One way in which this cognitive limitation is reflected is the inability of preoperational children to understand the transformations performed in conservation tasks. In his recent works, Piaget (1968) showed that, despite their limitations, preoperational children have certain cognitive strengths. One ability of children at this stage is their recognition that two factors can covary, or are functionally related. For example, Piaget described the ability of a preoperational child to recognize the relationship between the pulling of a cord and the opening of a curtain. However, according to Piaget the logic of functions is limited and only constitutes "semilogic" because its application is imprecise. Regarding the curtain, for example, the preoperational child was unable to quantify the relationship between the length to which the cord is pulled and the width of the curtain's aperture nor to understand why the two factors covaried. The strengths and limitations of preoperational thought were also seen in the results of the present study. Preoperational children behaved differentially toward aged vs. non-aged cohorts which implied their basic ability to distinguish salient characteristics of each group, and the ability to recognize that certain characteristics

and group membership covary (i.e., a functional relationship). On the other hand, preoperational children were less likely to integrate judgments about a variety of characteristics and to show a definite attitude toward aged adults than children who were cognitively more mature.

In contrast, concrete operational thought is characterized by decentration, the ability to focus on several dimensions of a problem simultaneously and to inter-relate these dimensions. In the conservation of number task, for example, the child coordinates the length of the rows with the density of the checkers. In expressing intergroup attitudes the child discriminates the cues which identify the group membership of the target and simultaneously associates with it other characteristics, such as ability or personality traits.

The concordance between the development of agist prejudice and number conservation supports other research on the relationship between cognitive development and the formation of intergroup attitudes. In their study of the impact of cognitive maturity on the development of sex role attitudes in children between the ages of four and eight, Kohlberg and Zigler (1967) concluded that level of cognitive development is more important than age in determining sex role attitudes. In the present research, because only one measure of cognitive development was used and because the number conservation scores of four and eight year olds showed little variability, a comparison like Kohlberg and Zigler's was not valid. However, results of the χ^2 analysis in the present study which showed a significant positive relationship between attainment of number conservation and agist attitude formation indicated the need for

further research to determine whether level of cognitive development is also more important than age in determining agist attitudes.

Attitude formation depends on the categorization of individuals and therefore study of its relationship to the development of classification ability would be particularly relevant. Piaget has shown that concrete operational children classify collections of objects in several ways and understand the relationship between subclasses and their supraordinate classes (hierarchical classification). However, concrete operational children are not yet able to comprehend class inclusion, or the relationship between the whole and its parts. Therefore they do not understand the relationship between the concepts "some" and "all". It would therefore be expected that although children at this stage could classify individuals as members of many alternate groups, once the person is classified as a member of a group he would be assumed to share all the characteristics of group members. Therefore, the expression of stereotypes (attribution of characteristics to individuals solely on the basis of group membership) would be expected among concrete operational children. However, recognition of individual differences would not be expected until children are capable of understanding the relationship between "some" and "all", that is, until they are capable of performing class inclusion relations. For example, children at the concrete operational stage would not be expected to understand that some old people are in robust health while others are infirm, some function at a high cognitive level while others are senile. While attainment of concrete operational thought is not a sufficient condition for children's developing stereotypes about the

aged, it may be a necessary condition. Likewise, although comprehension of class inclusion would not be expected to be a sufficient condition for the recognition of individual differences it may be a necessary condition for the eradication of stereotypes. Logically, one would predict that only children who understand that group membership does not determine all the characteristics of an individual would be cognitively capable of recognizing individual differences among group members. Further research on this and other relationships between cognitive and attitude development is needed.

Relationship Between Young Children's Attitudes Toward the Aged and Frequency and Quality of Contact with Old People

Although awareness of differences between aged and non-aged adults may be a necessary condition for attitude development, it is not a sufficient one. While children's ability to form coherent attitudes may be related to their level of cognitive development not all children who reach the level of concrete operational thought express negative attitudes toward the aged. Data on children's previous experience with aged individuals was collected in order to determine whether frequency of contact or quality of contact with aged individuals has an effect on the formation of agist attitudes. The content of children's attitudes about the personalities and abilities of the aged seemed to be related to the frequency and quality of their previous experiences with old people.

Scores on the dependent measures were correlated with demographic data collected in a telephone interview with subjects' mothers. Results

indicated that neither the age of the old person with whom the child maintained contact nor the age of the child's parent correlated significantly with any of the dependent variables. However, the frequency of contact, the proximity of the residence of the old person to the child's home, the role of the old person and the types of activities in which the child and the old person engage together correlated significantly with the dependent variables measured. The closer the old person lived to the child, the more frequently they met, the more responsibility the old person had for care of the child, the more active their pastimes together, then the less stereotyped was the child's attitude toward the aged in general. In the present study, this positive attitude was reflected particularly on the attitude scale, the measure of proxemic distance and through initiation of eye contact.

Results of a multiple linear regression analysis indicated that the combination of the frequency of children's contact with an aged individual (number of contacts per year), the role of the aged individual during those contacts (care-giver vs. social visitor) and the types of activities in which the two engaged (active vs. passive) were significant predictors of children's scores on the attitude scale. The analyses also indicated that a major portion of the variability in scores on the social attitude scale could be accounted for by the single variable -- the role of the aged individual. Children whose primary contact with the aged included the opportunity to perceive them in the role of caregiver, rather than just a social visitor gave a lower per cent of prejudiced answers on the attitude scale than children whose primary contact with the aged was social. This perception of role was

significantly more important in accounting for their scores on the attitude scale than either the frequency of contact with the aged or whether they engaged in active or passive activities when together. The three variables (frequency of contact, role of the aged individual during those contacts and the types of activities in which the child and adult engaged together) also accounted for a significant amount of the variation in scores for each of the subsets of items -- ability and personality. For the personality items, a major portion of the variability in scores was accounted for by the frequency of contact with the aged. In this sample, the more frequently children met with aged individuals the more positive were their attitudes regarding the personalities of the aged. These data suggested that contact with aged individuals was important, particularly for fostering positive attitudes about the personalities of old people and combatting the negative stereotypes of old people as mean, ornery, or unappealing. On the other hand, positive beliefs about the effectiveness and capability of old people were related not as much to frequency of children's contact with old people as to the role in which old people were perceived. The most important variable in determining whether old people were judged to be effective or ineffective, capable or helpless, was the child's own experience. Children who knew from personal experience that elderly people can take control of situations and are capable of functioning effectively in a status role generalized this knowledge to their judgments of any aged individual. On the other hand, children who had contact with old people but did not have the opportunity to see them function in responsible roles were less likely to judge other aged individuals as capable or effective. These

conclusions supported findings by Maxwell and Silverman (1971), Cowgill (1968) and Naus (1973) that the aged are valued more by those who recognize their ability and social value.

The implications for intervention aimed at improving children's attitudes toward aging and the aged are clear. One can speculate that contact with aged individuals is necessary if children are to develop positive feelings about old people. However, what transpires during that contact is most important. On the basis of present results one could predict that for children to recognize that old people can perform valuable roles they must see them in such roles. Visitation of nursing homes or "adopting" surrogate grandparents for social visits would not be expected to be as effective in inculcating positive attitudes regarding the abilities of old people as providing situations in which aged individuals would serve as teachers, tutors or mentors. Clearly, not all aged individuals are capable of serving in this type of role, but neither are all younger adults. Children who are made aware of the effectiveness of old people would be expected to judge them more positively and to recognize their potential abilities instead of focusing on their incapacities. Further research is necessary in the area of altering children's attitudes toward the aged.

Conclusions

The results of the present study indicated that children between the ages of four and eight years have begun to demonstrate agist prejudice in their beliefs and behaviors regarding old people. The emergence of these attitudes parallels the course of development of other intergroup attitudes. Children begin to develop agist attitudes when they become aware of differences between aged and non-aged adults, just as the first step in the development of other intergroup attitudes is recognition of group membership. This awareness is followed by the development of beliefs and feelings about group members and non-members. As present findings demonstrated, as agist beliefs and feelings emerge there may be a lack of internal consistency between them. For this reason, Proshansky (1966) has distinguished between the incipient attitudes held by children at this stage called "orientations" and full-fledged attitudes. The final major stage in attitude development is what Katz (1976) has referred to as a "crystalized" attitude. At this stage beliefs, feelings and behaviors are elaborated and integrated in a coherent and consistent attitude. Proshansky (1966) and Katz (1976) have stated that the final stage in the development of other intergroup attitudes, such as gender, ethnic or racial prejudice, does not emerge until adolescence. It is therefore not surprising that children in the present study did not show the coherent attitudes characteristic of the final stage in agist attitude development. The present research suggested that the timing of the emergence of these phases may be synchronized with stages in cognitive development and implied that the way children think about and categorize people may be related to the way they form concepts about

other objects.

Although four year olds did not show significant levels of agist prejudice on the attitude scale, their behaviors showed awareness of adult age differences. They placed more social distance between themselves and aged adults than non-aged adults. By age six, children began to demonstrate negative beliefs and feelings about the aged on the attitude scale as well as to distance themselves more from aged adults than from non-aged adults. Eight year olds also demonstrated significant agist prejudice on both the attitude scale and in behavior. The results from the eight year old group indicated more elaboration of beliefs and greater agreement between attitude and behavior.

The results of both the attitude scale and the behavioral measures indicated that women are more susceptible to the devaluation accompanying old age than are men. It also appeared that although the aged were evaluated negatively regarding their abilities the negative personality characteristics attributed to old people seemed to be more important in eliciting agist prejudice.

Although children's attitude scale scores correlated significantly with scores on some behaviorial measures, children's expressed attitudes and behaviors were not always consistent. When they differed, children were more likely to express negative attitudes indirectly in their responses to the attitude scale than in face-to-face contact.

The present research also suggested that although level of cognitive development may be important in determining how children think about the aged and other groups (i.e., their ability to form coherent attitudes), the frequency and nature of their experience with aged individuals plays

an important role in predicting what those attitudes will be. The frequency of children's contact with old people seems to be important in helping to determine children's attitudes about the personalities of old people. However, children's beliefs about the abilities and effectiveness of the aged seems to be related to their recognition that the aged can be capable and effective as a result of their own experience with aged adults in that type of role.

Applications and Implications

On the basis of the 1980 U.S. Census predictions have been made that within the next decade 25 per cent of the population of the United States will be 65 years or older and that the average life span of adults in the U.S. will be significantly increased. Despite the efforts of gerontologists and "grey" consciousness raising groups, agist prejudice in this country is still pervasive. The present research suggests that by the time children begin elementary school they have already begun to absorb the negative stereotypes and to recognize the lowered status of aged adults. Research has shown that the self-image of aged individuals is in part a reflection of their image in society. Further research to determine how children learn agist prejudice and attempts to intervene to break the cycle of agism are warranted in light of the evidence that, if trends continue, more children of the present generation will live to be aged adults and to endure the negative effects of agism for a longer period of time than any previous generation.

Appendices

- A. Social Attitude Scale of Agist Prejudice
- B. Parents' Questionnaire
- C. Analysis of Variance Summary Tables
 - 1. Social Attitude Scale of Agist Prejudice (SASAP) Scores
 - 2. Proxemic Distance Scores
 - 3. Productivity Scores
 - 4. Eye Contact Initiation Scores
 - 5. Number of Words Spoken
 - 6. Number of Verbal Initiations
 - 7. Mean Clause Length
 - 8. Number of Appeals for Assistance or Verification

Appendix A

SOCIAL ATTITUDE SCALE OF AGIST PREJUDICE (SASAP)

A = Ability

P = Personality

M = Male

F = Female

+ = Positive

- = Negative

- A M+ 1. These two men want to fix a chair. Who will be able to?
 F+ These two women want to fix a chair. Who will be able to?
- P M+ 2. One of these people is always invited to all the parties
 because everyone likes him. Which person does everyone
 like?
 F+ One of these people is always invited to all the parties
 because everyone likes her. Which person does everyone
 like?
- P M- 3. Larry doesn't like to be with one of these people because
 he complains all the time. Who complains all the time?
 F- Larry doesn't like to be with one of these people because
 she complains all the time. Who complains all the time?
- P M- 4. Mr. Jones and Mr. Smith are arguing over something silly.
 One of them always starts arguments. Which one always
 starts the arguments?
 F- Mrs. Jones and Mrs. Smith are arguing over something silly.
 One of them always starts arguments. Which one always
 starts the arguments?

- P M- 5. These two men are arguing. One of them is nasty and always yelling at people. Which one is nasty?
- F- These two women are arguing. One of them is nasty and always yelling at people. Which one is nasty?
- A M- 6. One of these people has trouble understanding and always has to have things explained to him. Which one?
- F- One of these people has trouble understanding and always has to have things explained to her. Which one?
- A M+ 7. These two men are running for president of their club. Which one will win?
- F+ These two women are running for president of their club. Which one will win?
- P M- 8. One of these people threw his garbage on the ground instead of putting it in the trashcan. He is going to walk away and leave it there. Who threw the garbage on the floor?
- F- One of these people threw her garbage on the ground instead of putting it in the trashcan. She is going to walk away and leave it there. Who threw the garbage on the floor?
- A M+ 9. Mr. Jones and Mr. Smith are playing checkers. Which man will win the checkers game?
- F+ Mrs. Jones and Mrs. Smith are playing checkers. Which woman will win the checkers game?
- A M- 10. One of these men dented the car bumper. Who did it?
- F- One of these women dented the car bumper. Who did it?

- P M+ 11. All of the men like to go out with one of these men because he is so nice. Which man does everyone like to go out with?
- F+ All of the women always like to go out with one of these women because she is so nice. Which woman does everyone like to go out with?
- A M+ 12. One of these men always finishes his work first, and it's always just right. Which one?
- F+ One of these women always finishes her work first, and it's always just right. Which one?
- P M- 13. Mr. Brown is having a party. He does not like one of the men at work and is not going to invite him. Which one is not going to be invited to the party?
- F- Mrs. Brown is having a party. She does not like one of the women at work and is not going to invite her. Which one is not going to be invited to the party?
- P M- 14. The policeman is asking both people what happened in the accident. They are both telling different stories. He knows who to believe because one of the men always tells lies. Which one always lies?
- F- The policeman is asking both people what happened in the accident. They are both telling different stories. He knows who to believe because one of the women always tells lies. Which one always lies?

- A M+ 15. One of these people is the boss at his work. Which man is the boss?
- F+ One of these people is the boss at her work. Which woman is the boss?
- A M+ 16. These two people are teachers. One is a very good teacher and children like to be in his class. Which is the good teacher?
- F+ These two people are teachers. One is a very good teacher and children like to be in her class. Which is the good teacher?
- A M- 17. One of these men always burns the food when he cooks. Which one is the bad cook?
- F- One of these women always burns the food when she cooks. Which one is the bad cook?
- A M+ 18. These two men both sew well. They are going to sew suits. Whose suit will be nicer?
- F+ These two women both sew well. They are going to sew dresses. Whose dress will be nicer?
- A M- 19. These two men are trying to fix their cars. One does not know what he is doing and will break his car even worse. Who will break his car even worse?
- F- These two women are trying to fix their cars. One does not know what she is doing and will break her car even worse. Who will break her car even worse?

- A M+ 20. These two men are doing puzzles. Which one will be able to finish his puzzle?
- F+ These two women are doing puzzles. Which one will be able to finish her puzzle?
- A M+ 21. Suzi is sick. Which doctor will be able to make her better?
- F+ Suzi is sick. Which doctor will be able to make her better?
- A M+ 22. These men are cleaning house. Whose house will be cleaner when they are finished?
- F+ These women are cleaning house. Whose house will be cleaner when they are finished?
- A M+ 23. Mr. Jones and Mr. Smith are buying gifts. Who buys the gifts that children like best?
- F+ Mrs. Jones and Mrs. Smith are buying gifts. Who buys the gifts that children like best?
- A M+ 24. Mr. Black and Mr. Green both sing well. Which man will win the prize for singing best?
- F+ Mrs. Black and Mrs. Green both sing well. Which woman will win the prize for singing best?
- P M- 25. Here are Mr. Jones and Mr. Brown. One has a run-down house. Whose house is run-down?
- F- Here are Mrs. Jones and Mrs. Brown. One has a run-down house. Whose house is run-down?
- P M- 26. One of these teachers is mean to his students. Who is it?
- F- One of these teachers is mean to her students. Who is it?

- P M- 27. One of these people does not like children. Who does not like children?
- F- One of these people does not like children. Who does not like children?
- P M- 28. The storekeeper left his money on the counter. One of these people is thinking about taking it and keeping it. Which person may take the money?
- F- The storekeeper left his money on the counter. One of these people is thinking about taking it and keeping it. Which person may take the money?
- A M+ 29. One of these men wrote a book. Which man wrote a book?
- F+ One of these women wrote a book. Which woman wrote a book?
- A M+ 30. Shari has a new puzzle. Which person would she want to have help her with it?
- F+

BUFFERS

- + 1. Suzi needs help with her homework. Who can help her best?
- + 2. Joan's train broke. Who will be able to fix it?
- + 3. These two people are playing chess. Who is the better chess player?
- + 4. One of these people is going to get a prize for selling the most cars. Who is getting the prize?
- 5. One of these people always lies about people when they are not around. Which one?
- 6. One of these people spilled juice all over the floor and left it there. Which one?

- + 7. One of these people always wears nice clothes and looks good.
Which one?
- 8. One of these people is always borrowing things and never
returns them. Which person is it?
- + 9. One of these people is a very good and famous doctor. Who
is it?
- 10. One of these people always pushes to get on a bus. Which one
always pushes?
- + 11. One of these people is very smart and won \$100 on a TV game
show. Which person is very smart?
- + 12. One of these people is very popular and has a lot of friends.
Which person?
- + 13. Jane's doll is broken. Who will fix it?
- 14. One of these people always makes mistakes in their work and
never knows the right way to do it. Which one always does
their work wrong?
- + 15. One of these people built a bookshelf. Who built a bookshelf?
- + 16. A picture won first prize in an art contest. Which person
drew it?

Appendix B
Parents' Questionnaire

1. Child's name _____ Date of birth _____
2. Parent's age: (1) under 20 (2) 20-25 years (3) 25-30 years
(4) 30-35 years (5) 35-40 years (6) 40-45 years
(7) 45-50 years (8) over 50 years
3. Age of old person: (1) 70-75 years (2) 75-80 years (3) 80-85 years
(4) 85-90 years (5) over 90 years
4. Residence of old person: (1) in the child's home (2) in the
child's neighborhood (walking distance) (3) in
the child's city (4) in the child's state
(5) out of state (6) deceased
5. Number of different occasions in the past year in which child had
contact with old person _____.
6. Role of the old person: (1) social visitor (2) caregiver
7. Type of activity: (1) active _____
(2) passive _____
8. Parent's rating of child's attitude toward old person:
(1) very negative (2) negative (3) ambivalent
(4) positive (5) very positive

Summary of Repeated Measures Analysis of Variance

Social Attitude Scale of Agist Prejudice Scores

Source of Variation	Sum of Squares	df	Mean Squares	F
<u>Between subjects</u>				
A (Subject Age)	36710.95	2	13355.48	55.51***
Subjects within groups	149401.44	141	1059.58	
<u>Within subjects</u>				
B (Basis for Prejudice: Ability vs. Personality)	1573.77	1	1573.77	4.73*
AB	8672.36	2	4336.18	13.10***
B X Subjects within groups	13240.86	141	939.08	
C (Target Gender)	2234.51	1	2234.51	6.79**
AC	1161.53	2	580.77	1.77
C X Subjects within groups	51836.34	141	367.63	
BC	1964.32	1	1964.32	5.97*
ABC	2141.63	2	1070.82	
ABC X Subjects within groups	51729.86	141	366.88	3.26*
Total	439336.57	575		

*p < .05
 **p < .01
 ***p < .001

Summary of Analysis of Variance
for Proxemic Distance Scores
by Cohort Age, Cohort Sex, Subject Age, and Subject Sex

Source of Variation	Sum of Squares	df	Mean Squares	F
Cohort Age (A)	1054.06	1	1054.06	17.80***
Cohort Sex (B)	57.35	1	57.35	.97
Subject Age(C)	1015.43	2	507.72	8.57***
Subject Sex(D)	6.80	1	6.80	.12
A X B	343.48	1	343.48	5.80*
A X C	275.93	2	137.96	2.33
A X D	15.32	1	15.32	.26
B X C	13.64	2	6.82	.12
B X D	239.35	1	239.35	4.04*
C X D	193.33	2	96.66	1.63
A X B X C	17.73	2	8.87	.15
A X B X D	5.99	1	5.99	.10
A X C X D	225.39	2	112.70	1.90
B X C X D	238.70	2	119.35	2.02
A X B X C X D	170.93	2	85.47	1.44
Error	7106.68	120	59.22	
Total	11006.85	143	76.97	

* $p < .05$
 ** $p < .01$
 *** $p < .001$

Summary of Analysis of Variance
for Productivity Scores
by Cohort Age, Cohort Sex, Subject Age and Subject Sex

Source of Variation	Sum of Squares	df	Mean Squares	F
Cohort Age (A)	24.92	1	24.92	.63
Cohort Sex (B)	33.52	1	33.52	.85
Subject Age (C)	95.50	2	47.99	1.22
Subject Sex (D)	32.10	1	32.10	.81
A X B	30.37	1	30.37	.77
A X C	74.08	2	37.04	.94
A X D	84.73	1	84.73	2.15
B X C	132.63	2	66.31	1.68
B X D	40.16	1	40.16	1.02
C X D	108.60	2	54.30	1.38
A X B X C	110.73	2	55.37	1.41
A X B X D	42.09	1	42.09	1.07
A X C X D	71.54	2	35.77	.91
B X C X D	39.24	2	19.62	.50
A X B X C X D	57.90	2	28.95	.74
Error	4729.41	120	39.41	
Total	5690.16	143	39.79	

*_p < .05
 **_p < .01
 ***_p < .001

Summary of Analysis of Variance
for Eye Contact Initiation Scores
for Cohort Age, Cohort Sex, Subject Age, and Subject Sex

Source of Variation	Sum of Squares	df	Mean Squares	F
Cohort Age (A)	154.66	1	154.66	18.44***
Cohort Sex (B)	67.09	1	67.09	8.00**
Subject Age (C)	94.29	2	47.14	5.62**
Subject Sex (D)	3.29	1	3.29	.39
A X B	.46	1	.46	.05
A X C	52.92	2	26.46	3.16*
A X D	36.46	1	36.46	4.35*
B X C	13.04	2	6.52	.78
B X D	52.42	1	52.42	6.25
C X D	20.70	2	10.35	1.23
A X B X C	8.51	2	4.26	.51
A X B X D	4.82	1	4.82	.53
A X C X D	32.21	2	16.10	1.92
A X B X C X D	51.22	2	25.61	2.25
Error	1006.24	120	8.39	
Total	1635.15	143	11.44	

* $p < .05$
 ** $p < .01$
 *** $p < .001$

Summary of Analysis of Variance
for Number of Words Spoken
by Cohort Age, Cohort Sex, Subject Age and Subject Sex

Source of Variation	Sum of Squares	df	Mean Squares	F
Cohort Age (A)	797.62	1	797.62	3.66*
Cohort Sex (B)	6.94	1	6.94	.03
Subject Age(C)	261.54	2	130.77	.60
Subject Sex(D)	115.10	1	115.10	.53
A X B	184.82	1	184.82	.85
A X C	694.10	2	347.05	1.59
A X D	66.94	1	66.94	.31
B X C	341.72	2	170.86	.79
B X D	9.11	1	9.11	.04
C X D	1353.90	2	676.95	3.11*
A X B X C	372.39	2	186.44	.86
A X B X D	272.60	1	272.60	1.25
B X C X D	71.57	2	35.79	.16
A X B X C X D	49.92	2	24.96	.12
Error	26130.41	120	217.75	
Total	31443.63	143	219.89	

*p < .05
**p < .01
***p < .001

Summary of Analysis of Variance
for Number of Verbal Initiations
by Cohort Age, Cohort Sex, Subject Age and Subject Sex

Source of Variation	Sum of Squares	df	Mean Squares	F
Cohort Age (A)	58.16	1	58.16	7.14**
Cohort Sex (B)	.47	1	.47	.06
Subject Age(C)	23.00	2	11.50	1.41
Subject Sex(D)	15.22	1	15.22	1.87
A X B	8.54	1	8.54	1.05
A X C	23.88	2	11.94	1.47
A X D	2.43	1	2.43	.30
B X C	20.86	2	10.43	1.28
B X D	9.37	1	9.37	1.15
C X D	37.41	2	18.71	2.29
A X B X C	7.25	2	3.63	.45
A X B X D	23.16	1	23.16	2.84
A X C X D	16.81	2	8.40	1.03
B X C X D	3.64	2	1.82	.22
A X B X C X D	2.54	2	1.27	.16
Error	977.86	120	8.15	
Total	1226.21	143	8.58	

* $p < .05$

** $p < .01$

*** $p < .001$

Summary of Analysis of Variance
for Mean Clause Length
by Cohort Age, Cohort Sex, Subject Age and Subject Sex

Source of Variation	Sum of Squares	df	Mean Squares	F
Cohort Age (A)	3.36	1	3.36	1.26
Cohort Sex (B)	.32	1	.32	.12
Subject Age(C)	7.23	2	3.61	1.35
Subject Sex(D)	.08	1	.08	.03
A X B	.00	1	.00	.00
A X C	15.69	2	7.85	2.93
A X D	.06	1	.06	.02
B X C	1.20	2	.60	.22
B X D	.32	1	.32	.12
C X D	2.03	2	1.02	.38
A X B X C	7.43	2	3.71	1.39
A X B X D	.25	1	.25	.09
A X C X D	2.72	2	1.36	.51
B X C X D	9.69	2	4.85	1.81
A X B X C X D	.29	2	.15	.05
Error	321.47	120	2.68	
Total	373.21	143	2.61	

* $p < .05$
 ** $p < .01$
 *** $p < .001$

Summary of Analysis of Variance
for Number of Appeals for Assistance or Verification
by Cohort Age, Cohort Sex, Subject Age and Subject Sex

Source of Variation	Sum of Squares	df	Mean Squares	F
Cohort Age (A)	4.13	1	4.13	7.50**
Cohort Sex (B)	.15	1	.15	.27
Subject Age(C)	3.91	2	1.96	3.56*
Subject Sex(D)	.01	1	.01	.01
A X B	.17	1	.17	.31
A X C	2.77	2	1.38	2.52
A X D	.56	1	.56	1.01
B X C	.29	2	.15	.27
B X D	.24	1	.24	.44
C X D	.43	2	.22	.39
A X B X C	.27	2	.14	.25
A X B X D	.69	1	.69	1.25
A X C X D	.08	2	.04	.07
A X B X C X D	2.67	2	1.34	2.43
Error	66.03	120	.55	
Total	83.31	143	.58	

* $p < .05$
 ** $p < .01$
 *** $p < .001$

References

- Adamson, J., & Schmale, A. Object loss, giving up and the onset of psychiatric disease. Psychosomatic Medicine, 1965, 27, 551-556.
- Ahammer, I., & Baltes, P. Objective vs. perceived age differences in personality: How do adolescents, adults and older people view themselves and each other? Journal of Gerontology, 1972, 27(1), 46-51.
- Allport, G.W. The nature of prejudice. Reading, Mass.: Addison-Wesley, 1958.
- Ansello, E.F. Agism -- The subtle stereotype. Childhood Education, 1978, 54(3).
- Arnhoff, R., & Lorge, I. Stereotypes about aging and the aged. School and Society, 1960, 88, 70-71.
- Aronoff, C. Old age in prime time. Journal of Communication, 1974, 24, 86-87.
- Bell, B. & Stanfield, G. The aging stereotype in experimental perspective. Gerontologist, 1973, 13, 341-344.
- Bell, B. & Stanfield, G. Chronological age in relation to attitudinal judgments; An experimental analysis. Journal of Gerontology, 1973, 28, 491-496.
- Bem, D. An experimental analysis of self-persuasion. Journal of Experimental Social Psychology, 1965, 1, 199-218.
- Bengtson, V.L. Inter-age perception and the generation gap. Gerontologist, 1971, 11, 85-89.
- Bengtson, V.L., Kasschau, P., & Ragan, P.K. The impact of social structure on aging individuals. In J. Birren & K.W. Schaie (Eds.) Handbook of the psychology of aging. New York: Van Nostrand-Reinhold, 1977, 327-354.
- Bennett, K., & Eckman, J. Attitudes toward aging. In C. Eisdorfer & M. Lawton (Eds.), The psychology of adult development and aging. Washington, D.C.: American Psychological Association, 1973.
- Borges, M., & Dutton, L. Attitudes toward aging: Increasing optimism found with age. Gerontologist, 1976, 16, 220-224.
- Botwinick, J. Disinclination to venture responses versus cautiousness in responding: An overview. American Journal of Psychiatry, 1972, 128, 1483-1491.
- Bowers, K. Pain anxiety and perceived control. Journal of Consulting and Clinical Psychology, 1968, 32, 596-602.

- Bringmann, W., & Reider, G. Stereotyped attitudes toward the aged in West Germany and the United States. Journal of Social Psychology, 1968, 76, 267-268.
- Britton, J.O., & Britton, J.H. Discrimination of age by pre-school children, Journal of Gerontology, 1969, 24, 457-460.
- Busse, E. Viewpoint: Prejudice and gerontology. Gerontologist, 1968, 8, 66.
- Busse, E., Jeffers, F., & Obrist, W. Factors in age awareness. Paper presented at the Fourth International Congress of Gerontology, Merno, Italy, July 1959.
- Butler, R. Aspects of survival and adaptation in human aging. American Journal of Psychiatry, 1967, 123, 1233-1243.
- Clark, K.B. & Clark, M.P. Racial identification and preference in Negro children. In T.M. Newcomb and E.L. Hartley, Readings in Social Psychology. New York: Holt, 1947, 169-178.
- Collette-Pratt, C. Attitudinal predictors of devaluation of old age in a multigenerational sample. Journal of Gerontology, 1976, 31, 193-197.
- Cowgill, D. The social life of the aging in Thailand. Gerontologist, 1968, 8, 95-163.
- Criswell, J.N. A sociometric study of race cleavage in the classroom. Archives of Psychology, 1939, no. 235.
- Dodwell, P.C. Relation between the understanding of the logic of classes and of cardinal number in children. The Canadian Journal of Psychology, 1962, 16, 152-166.
- Dutton, D.G. Reactions of restaurateurs to black and whites violating restaurant dress requirements. Canadian Journal of Behavioral Science, 1971, 3, 298-302.
- Edwards, A., & Wine, P. Personality changes with age: Their concomitant intellectual decline. Journal of Gerontology, 1963, 18, 182-184.
- Elkind, D. The child's conception of his religious denomination: I. The Jewish child. Journal of Genetic Psychology, 1961, 99, 209-225.
- Elkind, D. The child's conception of his religious denomination: II. The Catholic child. Journal of Genetic Psychology, 1962, 101, 185-193.
- Elkind, D. The child's conception of his religious denomination: III. The Protestant child. Journal of Genetic Psychology, 1963, 103, 291-304.
- Ferrari, J. Reported in M. Seligman, Depression and learned helplessness. In R. Friedman & M. Katz (Eds.), The psychology of depression: Contemporary theory and research, 1975.

- Flavell, J.H. Role-taking and communication skills in children. Young Children, 1966, 21, 164-177. (a)
- Flavell, J.H. The development of two related forms of cognition: role-taking and verbal communication. In A.N. Kidd and J.L. Rivoire (Eds.), Perceptual development in children. New York: International Universities Press, 1966, 246-272. (b)
- Flavell, J.H. (in collaboration with Botkin, P.T., Fry, C.L., Wright, J.W., and Jarvis, P.E.). The development of role-taking and communication skills in children. New York: Wiley, 1963.
- Gaines, R. Variables in color perception of young children. Paper presented to the Society for Research in Child Development, 1971.
- Ginsburg, H. & Oppen, S. Piaget's theory of intellectual development. Englewood Cliffs: Prentice-Hall, Inc., 1979 (second edition).
- Glass, D., Singer, J., & Friedman, L. Psychic cost of adaptation to an environmental stressor. Journal of Personality and Social Psychology, 1969, 12, 200-212.
- Golde, P., & Kogan. A sentence completion procedure for assessing attitudes toward old people. Journal of Gerontology, 1959, 14, 355-363.
- Goodman, M. Race awareness in young children. Cambridge: Addison-Wesley, 1952 (Second edition, New York: Crowell-Collier, 1964).
- Goldman, R.J. The application of Piaget's schema of operational thinking to religious story data by means of the Guttman scalogram. British Journal of Educational Psychology, 1965, 35, 158-170.
- Gordon, E. Role models for later maturity. Dissertation Abstracts International, 1970, 30, 4017A.
- Gordon, S.K., & Hallawer, D. Impact of a friendly visiting program on attitudes of college students toward the aged: A pedagogical note. Gerontologist, 1976, 16, 371-376.
- Harris, L. The myth and reality of aging in America. New York: National Council on Aging, 1975.
- Hartley, E.L., Rosenbaum, M., & Schwartz, S. Children's use of ethnic frames of reference: an exploratory study of children's conceptualizations of multiple ethnic group membership. Journal of Psychology, 1948, 26, 367-386.
- Heilbrun, A., & Lair, C. Decreased role consistency in the aged: Implications for behavioral pathology. Journal of Gerontology, 1964, 18, 325-329.
- Hess, B. Stereotypes of the aged. Journal of Communication, 1974, 24, 76-85.

- Hickey, T., Hickey, L.A. & Kalish, R.A. Children's perceptions of the elderly. Journal of Genetic Psychology, 1968, 112, 227-235.
- Hickey, T. & Kalish, R. Young people's perceptions of adults. Journal of Gerontology, 1968, 23, 215-220.
- Hoyer, F.W. & Cone, J.D. Child performance as a determinant of elderly caretaker behavior. Journal of Gerontology, 1974, 29, 534-542.
- Inhelder, B. & Piaget, J. The early growth of logic in the child. New York: W.W. Norton and Co., Inc., 1969.
- Jahoda, G. Children's concepts of nationality: a critical study of Piaget's stages. Child Development, 1964, 35, 1081-1092.
- Jantz, R.K., Seefeldt, C., Galper, A., & Serock, K. Children's attitudes toward the elderly: Final report. Paper presented at the Annual Meeting of the American Psychological Association, 1976.
- Jantz, R.K., Seefeldt, C., Galper, A., & Serock, K. Children's attitudes toward the elderly: Educational implications. Educational Gerontology, 1977, 2(3), 301-310.
- Jyrkila, F. Society and adjustment to old age. In Transactions of the Westernarck Society, Vol. 5., Turku, Munksgaard, 1960.
- Kanfer, R., & Seidner, M. Self-control: Factors enhancing tolerance of noxious stimulation. Journal of Personality and Social Psychology, 1973, 25, 381-389.
- Kastenbaum, R., & Durkee, N. Younger people view old age. In R. Kastenbaum (Ed.), New thought on old age. New York: Springer Publication Co., 1964, 237-249.
- Katz, P. Stimulus predifferentiation and modification of children's racial attitudes. Child Development, 1973, 44, 232-237.
- Katz, P. Toward the elimination of racism. New York: Pergamon, 1976.
- Katz, P., Sohn, M., & Zalk, S. Perceptual concomitants of racial attitudes in urban grade-school children. Developmental Psychology, 1975, 2, 135-144.
- Katz, P.A. & Zalk, S.R. Doll preferences: An index of racial attitudes? Journal of Educational Psychology, 1974, 66, 663-668.
- Kelly, H. Attribution theory in social psychology. In D. Levine (Ed.), Nebraska symposium on motivation, 1967, 192-240.
- Kerlinger, F. Foundations of behavioral research, New York: Holt, Rinehart and Winston, Inc., 1973 (second edition).
- Kogan, N. Attitude toward old people: The development of a scale and an examination of correlates. Journal of Abnormal and Social Psychology, 1961, 62, 44-54.

- Kogan, N., & Wallach, M. Age changes in values and attitudes. Journal of Gerontology, 1961, 16, 272-280.
- Kohlberg, L. Stages in children's conceptions of physical and social objects in the years four to eight. A study of developmental theory. Unpublished manuscript, 1963.
- Kohlberg, L., & Zigler, E. The impact of cognitive maturity on the development of sex-role attitudes in the years four to eight. Genetic Psychology Monographs, 1967, 75, 89-165.
- Krugman, A. A note on the level of aspiration behavior and aging. Journal of Gerontology, 1959, 14, 222-225.
- Kutner, B., Wilkins, C., & Yarrow, P. Attitudes and overt behavior involving racial prejudice. Journal of Abnormal and Social Psychology, 1952, 47, 649-652.
- Labouvie-Vief, G., & Baltes, P. Reduction of adolescent misperceptions of the aged. Journal of Gerontology, 1970, 31, 68-71.
- Lane, B. Attitudes of youth toward the aged. Journal of Marriage and Family, 1964, 26, 229-231.
- Langer, E., Janis, I., & Volfer, J. Effects of a cognitive coping device and preparatory information on psychological stress in surgical patients. Journal of Experimental Social Psychology, 1974.
- Langer, E., & Rodin, J. The effects of enhanced personal responsibility for the aged. Journal of Personality and Social Psychology, 1975.
- LaPiere, R. Attitudes versus actions. Social Forces, 1934, 13, 230-237.
- Leaf, A. Threescore and forty. Hospital Practice, 1973, 70-71.
- Lefcourt, H. The function of the illusions of control and freedom. American Psychologist, 1973, 28, 417-425.
- Lewis, M. Parents and children: Sex-role development. School Review, 1972, 80, 229-240.
- Little, K.D. Personal space. Journal of Experimental Social Psychology, 1965, 1, 237-247.
- Loof, W. Perceptions across the life span of important informational sources for children and adolescents. Journal of Psychology, 1971, 78, 207-211.
- Loof, W. Children's judgments of age. Child Development, 1971, 42, 1282-1284.
- Lorge, I., Tuckman, J., & Abrams, A. Attitudes of junior and senior high school students toward aging. Annual report of the New York legislative committee on the problem of aging, 1954, 59-63.

- Lovell, K., & Slater, A. The growth of the concept of time: A comparative study. Journal of Child Psychology and Psychiatry, 1960, 1, 179-190.
- Lowenthal, M. The relationship between social factors and mental health in the aged. Psychiatric Research Reports, 1963, 23, 187-197.
- Maccoby, E.E., & Jacklin, C. The psychology of sex differences. Stanford: Stanford University Press, 1974.
- Martel, M. Age sex-roles in magazine fiction. In B. Neugarten (Ed.), Middle age and aging. Chicago: University of Chicago Press, 1963.
- Mason, E. Some correlates of self-judgments of the aged. Journal of Gerontology, 1954, 9, 324-337.
- Maxwell, R., & Silverman, P. Status information control and attitudes toward the aged: A cross-cultural study. Gerontologist, 1971, 11, 35.
- McMahon, A., & Rhudick, P. Reminiscing: Adaptational significance in the aged. Archives of General Psychiatry, 1964, 10, 292-293.
- McTavish, D. Perceptions of old people: A review of research methodologies and findings. Gerontologist, 1971, 11, 90-101.
- Mead, G.H. Mind, self and society. Chicago: University of Chicago Press, 1934.
- Mehrabian, A. Relationship of attitude to seated posture, orientation and distance. Journal of Personality and Social Psychology, 1963, 10, 26-30.
- Mehrabian, A. Significance of posture and position in the communication of attitude and status relationships. Psychological Bulletin, 1969, 71, 359-372.
- Mauss, R.F. The transfer effect of a learning program in social causality on an understanding of physical causality. Journal of Experimental Education, 1951, 29, 231-247.
- Mussen, P. Reliability and validity of Morowitz Faces Test. Journal of Abnormal and Social Psychology, 1950, 45, 504-506.
- Naus, P. Some correlates of attitudes toward old people. International Journal of Aging and Human Development, 1973, 4, 229-243.
- Northcott, H. Too young, too old -- age in the world of television. Gerontologist, 1975, 15, 184-186.
- Pervin, L. The need to predict and control under conditions of threat. Journal of Personality, 1963, 31, 570-585.
- Peterson, D., & Karnes, E. Older people in adolescent literature. Gerontologist, 1976, 16, 225-231.

- Piaget, J. On the development of memory and identity, translated by E. Duckworth, Barre, Mass.: Clark University Press, 1968.
- Piaget, J. The child's conception of time. London: Routledge and Kegan-Paul, 1969.
- Piaget, J. The child and reality: Problems of genetic psychology. 2nd printing. New York: Viking Press, 1974.
- Piaget, J., & Weil, A. The development in children of the idea of the homeland and of relations with other countries. International Social Science Bulletin, 1951, 3, 561-578.
- Porter, J. Black child, white child: The development of racial attitudes. Cambridge: Harvard University Press, 1971.
- Proshansky, H. The development of intergroup attitudes. In I.W. Hoffman and M.L. Hoffman (Eds.), Review of Child Development Research, Volume 2. New York: Russell Sage Foundation, 1966.
- Pushkin, I., & Veness, T. The development of racial awareness and prejudice in children. In P. Watson (Ed.), Psychology and race. Chicago: Adline, 1973.
- Radke, M.J., Trager, H.C., & Davis, H. Social perceptions and attitudes of children. Genetic Psychology Monographs, 1949, 40, 327-447.
- Renninger, C.A., & Williams, J.E. Black - white color connotations and race awareness in preschool children. Perceptual and Motor Skills, 1966, 22, 771-785.
- Riegel, K., & Riegel, R. A study on changes of attitudes and interests during later years of life. Vita Humana, 1960, 3, 177-206.
- Robertson, J. Significance of grandparents -- perceptions of young adult grandchildren. Gerontologist, 1976, 16, 137-140.
- Rosencranz, M., & McNevin, T. A factor analysis of attitudes toward the aged. Gerontologist, 1969, 9, 55-59.
- Rosner, J. When white children are in the minority. Journal of Educational Sociology, 1954, 23, 69-72.
- Rosow, I. Old age: One moral dilemma of an affluent society. Gerontologist, 1962, 2, 182-191.
- Ross, R., & Freitag, C. A comparison of adolescent and adult attitudes toward the aged. Educational Gerontology, 1976, 1, 291-295.
- Rubin, Z. Measurement of romantic love. Journal of Personality and Social Psychology, 1970, 16, 265-273.
- Sabatini, P., & Novak, C. Bias for the ages: Perceptions of age-appropriate behavior in adolescent, midlife and late adult samples. Presented at Gerontological Society Meeting, 1975.

- Schmale, A. Relationships of separation and depression to disease: A report of a hospitalized medical population. Psychosomatic Medicine, 1953, 20, 259-277.
- Schmale, A., & Iker, R. The psychological setting of uterine cervical cancer. Annals of the New York Academy of Sciences, 1966, 125, 805-813.
- Seligman, M. Depression and learned helplessness. In R. Friedman and M. Katz (Eds.), The psychology of depression: Contemporary theory and research, 1975.
- Seligman, M., & Meier, S. Failure to escape traumatic shock. Journal of Experimental Psychology, 1967, 74, 1-9.
- Seligman, M., Meier, S., & Geer, J. The alleviation of learned helplessness in the dog. Journal of Abnormal and Social Psychology, 1963, 73, 256-262.
- Seltzer, M., & Atchley, R. The concept of old: Changing attitudes and stereotypes. Gerontologist, 1971, 11, 226-230.
- Sheehan, R. Young children's contact with the elderly. Journal of Gerontology, 1973, 33, 567-574.
- Simmons, L. The role of the aged in primitive society. New Haven: Yale University Press, 1945.
- Stabler, J.R., Johnson, E.E., Berke, M.A., & Baker, R.B. The relationship between race and perception of racially related stimuli in preschool children. Child Development, 1969, 40, 1233, 1239.
- Stabler, J.R., Zeig, J., & Rembold, A. Children's evaluations of the colors black and white and their interracial play behavior. Child Study Journal, 1976, 6, 191-197.
- Stevenson, H., & Stevenson, N. Social interaction in an interracial nursery school. Genetic Psychology Monographs, 1960, 61, 37-75.
- Stevenson, H., & Stewart, E. A developmental study of racial awareness in young children. Child Development, 1958, 29, 399-409.
- Swinson, M.E. The development of cognitive skills and role-taking. Dissertation Abstracts International, 1966, 26(27), 4082.
- Thomas, E., & Yamamoto, K. Attitude toward age: An exploration in school age children. International Journal of Aging and Human Development, 1975, 6, 117-129.
- Treybig, D. Language, children, and attitudes toward the aged: A longitudinal study. Presented at Gerontological Society, Portland, Ore., 1974.

- Troll, L. The salience of members of three-generational families for each other. Presented at American Psychological Association, 1972.
- Tuckman, J., & Lorge, I. The effect of institutionalization on attitudes toward old people. Journal of Abnormal and Social Personality, 1952, 47, 337-344.
- Tuckman, J., & Lorge, I. Attitudes toward old people. Journal of Social Psychology, 1953, 37, 249-260.
- Tuckman, J., & Lorge, I. Classification of the self as young, middle-aged, or old. Geriatrics, 1954, 9, 534-536.
- U.S. Bureau of the Census Report, 1970.
- Weinberger, L., & Millham, J. A multidimensional multiple method analysis of attitudes toward the elderly. Journal of Gerontology, 1975, 30, 343-348.
- Weitz, S. Attitude, voice, and behavior: A repressed affect model of interracial interaction. Journal of Personality and Social Psychology, 1972, 24, 14-21.
- Williams, J.E. Connotations of racial concepts and color names. In H.L. Goldschmid (Ed.), Black Americans and white racism, New York: Holt, Rinehart & Winston, 1970.
- Zola, I. Feelings about age among older people. Journal of Gerontology, 1962, 17, 65-68.