CONCEPTUALIZATIONS OF YOUNG, MIDDLE-AGED, AND OLDER
ADULTS AND THE INGROUP-OUTGROUP
COMPLEXITY EFFECT

DISSERTATION

Presented to the Graduate Council of the
University of North Texas in Partial
Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

Karin E. Curtiss, M.A.
Denton, Texas
August, 1999
The purpose of the present study was to investigate Linville's (1982) ingroup-outgroup complexity hypothesis through descriptive card sorts created by young, middle-aged, and older adults regarding their own and other age groups. Participants included 52 younger adults, 50 middle-aged adults, and 51 older adults. Each participant completed a series of card sorts and a questionnaire including several brief psychosocial measures. These measures addressed constructs including participant self-esteem, socially desirable responding, knowledge about aging, anxiety about aging, and perceived social distance with persons of different age groups. Two indices were developed to measure the complexity indicated by the various card sorts. One of the main hypotheses was that participants would create the most complex conceptualizations regarding their own age group (corroborating Linville’s ingroup-outgroup hypothesis). Other research questions involved the relationship between participant variables and the complexity of the card sorts created. Overall, support for the ingroup-outgroup hypothesis was found, in that younger participants tended to create the most complex descriptions of the young target group, as did the older participant group of the oldest target group. Also, certain participant variables were found to be important predictors of conceptualizations regarding the older target group. Specifically, it was found that persons with more anxiety about aging, less
knowledge about aging, and more social distance with older persons tended to describe them in the most simplistic manner. In addition, exploratory analyses were conducted regarding weighted scores created for each of the adjectives used in the card sorts. These analyses revealed that the self and middle-aged target groups were described in the most complex and/or positive terms. This project attempted to correct for some methodological problems of past research and presented important implications for the promotion of positive intergenerational relationships and quality service provision to older adults.
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CHAPTER 1

INTRODUCTION

Throughout everyday life, people encounter others who are different from themselves in some apparent way, be it in ethnicity, gender, age, or a multitude of other characteristics. Often, people do not have the time to get to know others they meet on a particularly individual basis, and are left to process what information is available and organize it in some meaningful way. Typically, this is done by relying on pre-existing constructs, stereotypes, and organizational structures to sort others into the “types of people” believed to compose the social world. It is important to improve understanding of this conceptualization process, as it is so inherent in day-to-day functioning and so strongly impacts how people interact with, treat, and conceptualize others.

This study focused on one aspect of this issue -- the conceptualizations people of different ages have regarding both their own and other age groups. A trait-evaluation and sorting procedure was used to address this multidimensional issue, to investigate (a) how people construed a number of traits in relation to different age groups, and (b) if they used this information differently given the age group under consideration.

The Ingroup-Outgroup Complexity Hypothesis

In an attempt to address the issues of knowledge structures and the extremity of judgments based on such structures, Linville (1982) tested three theoretically linked
hypotheses. The hypotheses she tested were (a) the ingroup-outgroup complexity hypothesis, which states that people conceptualize their own group (the ingroup) in a more complicated fashion than other groups (outgroups); (b) more extreme evaluations are made regarding stimuli which are conceptualized in a less complex way; and, as derived from the previous two hypotheses, (c) members of outgroups are rated more extremely than are members of ingroups. Linville (1982) described people’s conceptualizations of social groups “as being constituted of rich sets of features and beliefs about the correlations among these features. Organized knowledge structures develop that embody such beliefs concerning the association of features” (p. 194). Linville stated these knowledge structures are relied upon when a person is confronted by someone of a particular social group and is in the process of perceiving him/her and making judgments. Linville explained that when an individual is a member of a social group, the complexity of the conceptualizations others create about him or her is impacted by at least two basic factors. First, the number of features associated with a person is directly related to the complexity of the final conceptualization. Second, the more redundant the observed features or descriptors, the less complex the resulting representation will be. According to Linville, the more complex the perception of an individual, the more varied the attributes which were included in a conceptualization or description of that person.

To test her first hypothesis, Linville (1982) had 22 male undergraduates sort 33 traits into “as many groups as you find meaningful,” first describing their own age group and then describing men in their 60’s and 70’s. The results from this experiment
supported her first hypothesis -- that people tend to describe their own group in a more complex way than they describe outgroups. The young men in this case sorted the traits into more categories for their own age group, including when redundancy of traits was taken into account.

In her second experiment, 36 undergraduate volunteers completed two tasks. First, they completed a trait-sorting task similar to that required in Experiment 1, except in this case they were asked to only think about men in their 60's or 70's. For the second task, the same participants were asked three weeks later to evaluate a positive and a negative vignette. One half of the subjects rated vignettes about a younger person, while the other half evaluated scenarios regarding an older person. The results in this case supported Linville's (1982) second hypothesis in that older men who were described in a less complex manner were more extremely rated on the evaluation scale (positively and negatively, depending on the nature of the vignette).

Finally, for her third experiment Linville (1982) again tested her second hypothesis, this time in a nonsocial arena (having participants rate cookies, some of which had been assigned only two attributes [simple conceptualization], and others which had been labeled with six characteristics [complex conceptualization]). Hypothesis 2 was again supported, this time in a nonsocial context, in that the more simply described cookies were rated in more extreme, absolute terms than the cookies which were identified in a more complicated way.
Past Trait-Sorting and Characterization Studies

There have been several studies conducted in the last two decades that have investigated the attitudes participants (representing a variety of ages) hold regarding older adults. The procedures of these projects have been quite varied, including trait-generation, trait-sorting, and the completion of opinion measures. The investigations outlined here are those most relevant to the proposed study in terms of the methodology used and results which have been important in terms of contributing to the knowledge in this area. In addition, several of the presented studies made conclusions which may corroborate Linville's (1982) ingroup-outgroup complexity hypothesis (e.g., Brewer & Lui, 1984; Wingard, Heath, & Himelstein, 1982).

Schmidt and Boland (1986) were interested in the idea that people possess multiple stereotypes of the elderly. To address this issue, they recruited 36 male and female college undergraduates to generate as many traits as they could regarding elderly adults. These subjects' instructions were as follows:

"How would you describe the typical old person? Please write down all the things you typically think about, hear about, or read about the elderly. Indicate anything that is typically associated with the elderly, regardless of whether it is favorable or unfavorable or whether you personally believe it to be true." (Schmidt & Boland, 1986, p. 256)

Experimenters analyzed the content of the generated traits, and a final composite list of 99 descriptors was created.
Following this procedure, another 35 university students were given the 99 traits printed on cards, to organize into groups. They were instructed to sort into one pile all of the traits that would be possessed by the same older adult. The subjects were told they could create as few or as many groups as they liked and that traits could be used in multiple groups. Traits not utilized in any cluster were to be included in a “miscellaneous” stack. Analyzing the created categories through cluster analysis identified twelve specific stereotypes. These stereotypes were later given the following labels: “perfect grandparent,” “sage,” “liberal matriarch/patriarch,” “John Wayne conservative,” “mildly impaired,” “vulnerable,” “recluse,” “severely impaired,” “nosy neighbor,” “despondent,” “bag lady/vagrant,” and “shrew/crumudgeon.” Fifteen different undergraduates were then provided descriptions of these stereotypes and asked to “form a picture of the person described” and rate the “person” along a semantic differential scale created by Kogan and Wallach (1961) and an attitude assessment measure developed by Schmidt and Boland (1986) for this study.

From their results, Schmidt and Boland (1986) concluded subjects’ conceptualizations of older adults were multiple and that, while four of the stereotypes were rated as being positive, the majority of them (66%) were negative. The general technique implemented in this study is likely very useful in that it relied on fundamental concepts generated by subjects, rather than descriptions and terms provided by experimenters to be rated. Also, according to Schmidt and Boland, this procedure was less vulnerable to subjects’ tendencies to provide socially desirable responses as they were encouraged to provide all traits, positive and negative, that they had ever encountered in a
variety of settings. This statement in a sense absolved the subjects from concern that they would seem discriminatory or critical because of any negative traits included in their list.

In closing, Schmidt and Boland stated that future research should differentiate these stereotypes and positivity/negativity ratings along the various subpopulations of older adults. Also, they suggested the sampling of subjects from different age groups, "to see whether there are differences in stereotype structure among different populations" (p. 259).

In Study 1 of a series of experiments, Hummert (1990) recruited two groups of 37 college undergraduates to replicate aspects of Schmidt and Boland's (1986) study. Using a list containing 84 of the 99 characteristics generated in Schmidt and Boland's project, Hummert asked one group of subjects to sort the trait cards into stereotypes describing older adults. Then, Hummert asked another group of students to perform the same task, but to instead organize and cluster these same traits to conceptualize younger adults. Results from the first phase of this study replicated the general categories of traits (stereotypes) created by the card sorts in Schmidt and Boland's 1986 investigation. Eight of the twelve stereotypes generated in the previous study were re-created to describe older adults (i.e., "perfect grandparent," "liberal matriarch/patriarch," "John Wayne conservative," "recluse," "severely impaired," "vulnerable," "shrew/curmudgeon," and "despondent"). There was variance between the two studies, however, in the number of traits composing these stereotypes. Hummert suggested "certain stereotypes may be more consistently defined across individuals than others and that specific traits may be more
strongly associated with a particular stereotype by some individuals than by others” (p. 188).

Also, Hummert (1990) noted there were very few similarities between the stereotypes created to describe the two different age groups. For example, some traits included in positive stereotypes for older adults (e.g., distinguished-looking) were included in negative stereotypes describing the young. Also, many traits often used in older adult stereotypes were not included in any of the trait clusters for the young. None of these observations are particularly surprising given the traits used to describe young adults in this case were those generated in another study to describe only older persons.

In this study, the undergraduate subjects sorted the cards into many more categories when conceptualizing young adults than did their counterparts in the first phase, who were describing older adults. Hummert (1990) described this as being consistent with the idea proposed by Linville (1982), proposing that persons have more complex conceptualizations of groups to which they belong than of others.

In Study 2 of Hummert’s (1990) project, 81 undergraduate students were asked to complete three scales pertaining to provided stereotypic descriptions of older and younger adults (the descriptions were based on the 84 traits generated in Schmidt and Boland [1986]). First, the participants were asked to choose an age group for each of the sample individuals. Next, they were asked to rate, on a seven-point Likert-type scale, how typical or atypical this described person was of older (or younger) adults. Lastly, they evaluated each of the persons described along a 25-item, seven-point Likert-type scale (the same attitude measure developed by Schmidt and Boland).
Results from Study 2 confirmed Hummert’s (1990) hypothesis that the negative stereotypes of both older and younger adults received lower ratings by the study participants. Also, the participants rated the descriptions of younger and older persons similarly. Hummert concluded this meant the informants "saw the subcategories as representing different types of people, rather than simply collections of positive and negative traits" (p. 192). In addition, overall positivity and negativity of ratings were not correlated in any significant way with the ages typically associated with the stereotypes. Despite this finding, however, there was some evidence that when subjects made age judgments about the stereotypes, older ages were assigned to negative stereotypes more frequently than to positive trait groups.

From these two studies, Hummert (1990) concluded stereotypes held by subjects regarding younger and older adults are not very similar to each other, in that the same set of traits were sorted very differently regarding the two age groups. Hummert also acknowledged, however, that the procedure used in these studies does not help define the nature of stereotypes people have about young adults because the set of traits used were originally generated to describe older persons.

In a 1993 study by Hummert, a very similar procedure was carried out as in Study 2 in her 1990 project, except that participants in this case were 43 older adults rather than young college undergraduates. In this study, the same stereotypes were again used. Hummert was interested in comparing the age and typicality ratings of the older subjects to those obtained in 1990 from younger participants. The ratings of the older adults tended to agree with those of the younger adults in terms of which positive and negative
stereotypes were applied to older adults as a whole. Despite this, confirming Hummert's hypothesis, the older subjects rated all of them as less typical of the elderly than did the younger subjects. This finding was consistent with a concept proposed by Brewer and Lui (1984) that stereotypes of older persons regarding their own age group are somewhat different from those possessed by younger adults. No matter which stereotype was being rated, the older informants were much more likely to use the more specific age gradations within the "older adult" category (55 to 64 years, 65 to 74 years, and 75+ years) than were their younger counterparts. Hummert suggested these differences in the use of age groups might be due to the participants' different conceptualizations of what ages were considered "old." Another possible explanation for the older participants' utilization of the more specific age grading may be that they had a more complex conceptualization of this age group. If this were the case, this tendency would be consistent with the ingroup/outgroup complexity effect. Hummert acknowledged some of the problems of this study, such as the need for traits describing the elderly to be generated by older adults themselves (given college students previously created the terms used in this study). Also, she stated that certain stereotypes were frequently associated with specific subset age groups, rather than with "older adults" in general.

A new trait-generation study was implemented in 1994 by Hummert, Garstka, Shaner, and Strahm. This project was an extension of previous multiple-stereotype research and involved 120 young, middle-aged, and older adults in a trait generation and stereotyping procedure to describe the elderly. The same procedure was followed in this case as in Schmidt and Boland (1986), and in terms of trait generation, many
characteristics listed were similar to those from this previous study. The final product by Hummert et al. (1994) was a 97-item list of traits, including 78 that had been included by Schmidt and Boland as well as 19 new traits; it had been decided that only characteristics relating to personality, cognitive ability, physical activity, and health would be included. While there was significant similarity between the different age groups concerning the traits generated, young adults repeated more of the Schmidt and Boland traits than any other group (this was not unexpected, as only young adults generated the original Schmidt and Boland traits). The 19 new traits were mentioned most often by the middle-aged and older groups. A possible explanation for this could again stem back to Linville’s (1982) hypothesis that individuals have different and more complex conceptualizations of people who are more like their own ingroup. Of the three participant groups, however, the older adults produced the fewest terms, which Hummert et al. suggested could have been due to attentional deficits, cognitive slowing, or memory deficits.

Following the completion of this list, the traits were sorted by subjects of each of the three age groups, following the same guidelines used by Schmidt and Boland (1986) to generate stereotyped clusters describing older adults. It was found that subjects in the three groups created many of the same stereotypes, although those created by the two older groups appeared to be more complex (i.e., more groupings created, greater heterogeneity) than those developed by the younger subjects. In addition, the middle-aged and older subjects created certain stereotypes more frequently than did the younger participants (e.g., “activist”); these groupings were most often subcategories of stereotypes already generated by the younger adults. Furthermore, the stereotypes created
only by the older adults were essentially more specific forms of those generated by the middle-aged adults (Hummert et al., 1994).

Hummert et al. (1994) did not find support for their main hypothesis that middle-aged adults would generate more stereotypes than would younger adults. Rather, it was found that the young and middle-aged subjects created about the same amount of stereotypes, lending support to the ingroup/outgroup complexity hypothesis, rather than to a developmental one (which would have been indicated by middle-aged persons generating more stereotypes than young adults, and older adults creating more than the middle-aged). Despite the fact that the middle-aged participants did not create more groups than did young subjects, they did generate more differentiated groups. Hummert et al. explained this finding as evidence that “this increasing differentiation may reflect their move across the life span toward their own membership in the category older adult, even though they still view older adults as members of a different age group.” (p. P248).

In 1995 these same authors (Hummert, Garstka, Shaner, & Strahm), using the 11 stereotypes generated in their 1994 study, had 40 young adults, 40 middle-aged adults, and 45 older adults conceptualize these stereotypes in terms of older adults. Given an unlabeled description of each stereotype, each subject was asked to (1) circle the age group he/she felt best matched the description, (2) rate each stereotype description in terms of how typical it was of an older person, and (3) evaluate the description along 15 semantically-differentiated items on a 7-point Likert-type scale (e.g., good-bad, engaging-boring, hostile-friendly). According to the outcome of these ratings, Hummert et al. reported participants from the different age groups generally agreed regarding the valence
of traits, but older persons tended to have more complex views on aging than did younger participants. The authors also suggested more complex stereotypes generated lower typicality scores, which were more often provided by the older participants. Hummert et al. suggested future research focus on “the perception processes underlying these age differences, specifically those processes that provide the basis for the age-related differences in the complexity of aging schemas” (p. 187).

Wingard, Heath, and Himelstein (1982) assessed attitudes of 263 male and female participants, whose ages ranged from 17 to 58 years. A focus of this study was the comparison of ratings regarding older adults made in isolation to ratings regarding older people when made in direct comparison to younger people. Subjects who made judgments in the comparative context gave older adults ratings that were more extreme than ratings given in isolation. This could be viewed from the context of Linville’s (1982) ingroup-outgroup extremity hypothesis if it is interpreted that comparing older persons to younger people accentuated their outgroup status, which consequently, according to another of Linville’s hypotheses, resulted in more extreme attributions and ratings.

Finally, Brewer and Lui (1984), in two studies, had participants who were 70 years old and older sort photographs of older men and women into different categories of people. In addition, 46 young college students were asked to complete the same sorting procedure. Then, a subset of women from the original subject sample (70 years of age and older) was asked to select from the pictures of women, the one that was most like themselves. Seventeen of these women were asked to categorize 54 traits along some selected category stereotypes, and another 17 were told to sort the 54 traits into two
stacks. "like me" and "not like me." This second trait-sorting condition provided a way to assess if there were any similarities between their sorts according to stereotypes and sorts to describe themselves.

Brewer and Lui (1984) found almost all of the women who participated in the second part of the study identified themselves closely with a provided stereotype labeled “grandmother.” In describing the subjects’ trait attributions to representatives of this category, the authors stated “their attribute associations to representative members of that category were both more complex and show evidence of ingroup evaluative bias” (p. 593). Brewer and Lui concluded the participants in this study “show clearly the pattern expected from the ingroup complexity hypothesis. Category associations to ‘young people’ and to ‘other old people’ tended to be very age-stereotyped, but traits assigned to the ‘like me’ category were more complex, idiosyncratic, and not category-based” (p. 593).

**Self-Complexity and Affective Extremity**

Regarding conceptualizations of the self, Linville (1985) described the number of aspects a person considers in self-appraisal, as well as the impact of self-complexity on emotional responses to life events. Assumptions of Linville’s self-complexity model are (a) people represent themselves in terms of different aspects, (b) different levels of affect are associated with different representative aspects of the self, (c) people differ in terms of the complexity in which they conceptualize themselves, and (d) self-conceptualization and emotions associated with it are directly related to the appraisal of and emotion associated with different self components. Linville associated higher levels of self-complexity with more diverse life experiences, individual histories, higher intelligence, and a tendency to be
more introspective. In addition, in her 1985 study Linville found persons with lower self-complexity ratings responded with more extreme emotions to both positive and negative experiences and that mood swings overall during a two-week period were more extreme. In 1987 Linville extended these findings to assert that higher self-complexity (as defined by having a greater number of non-overlapping self-aspects) can protect a person from some of the negative consequences of stress, in that less extreme emotional reactions often occur in response to distressing events. She explained this by stating that, if there are many non-overlapping self-aspects, some may remain unimpacted when one or some of the others are threatened by a stressful event.

Social Identity Theory and The Contact Hypothesis

The social identity theory was developed to broaden the theoretical foundation of the study of intergroup conceptualization. The social identity theory posits that a person categorizes him/herself in part according to his or her membership in specific social groups. In situations in which this self-concept is especially relevant, the person will be more prone to rely on this personal aspect when dealing with others. Also, this is especially likely to happen when the person is motivated to conceptualize him/herself and his/her ingroup in positive terms (Brewer & Miller, 1984). This type of categorical responding also can generalize in terms of the person's tendency to conceptualize others (i.e., outgroup members) in some situations according to more broad, categorical conceptualizations, ignoring individual differences (Tajfel, 1978). It is possible to fit the social identity theory within the ingroup-outgroup complexity hypothesis to further
explain the tendency of persons to describe outgroup members in less complex (and sometimes more stereotypical) terms.

The contact hypothesis also addresses the issue of intergroup relationships, and states that under certain conditions different groups can interact quite well. These conditions include (a) equal group status, (b) opportunities for groups members to cooperate, (c) the possibility for group members to get to know each other, and (d) a setting that permits harmonious group interaction (Cook, 1985, as cited in Gaertner, Rust, Dovidio, Bachman, & Anastasio, 1994). These observations are important in that they identify factors which can be influenced to improve intergroup interactions.

Interpersonal Contact and Knowledge About Aging

Along these same lines, connectedness between different age groups has been associated with the knowledge group members have of each other. Hale (1998) studied the relationship between the amount of contact with the elderly, knowledge about aging, and the stereotyping of older adults. Hale administered measures of these three constructs to 50 young adults (18-25 years of age) and 50 older adults (64-79 years of age) and found for both subject age groups, those who reported more contact with the elderly had higher scores on the knowledge measure and lower stereotype scores. Hale suggested the higher stereotype and lower knowledge scores on the parts of persons with less contact could be due to lack of experience with competent older persons or a high level of contact with older persons who were not doing well physically and/or cognitively. An unexpected finding with this study was the older participants stereotyped the elderly as frequently as did the younger participants. Another result was that younger participants received higher
scores on the knowledge of aging measure than did older participants. In terms of the age of the participants, Hale stated that “whereas age was not related to the possession of stereotypes, it was related to a lack of information about aging” (p. 36).

**Rationale for the Current Study**

The goal of this study was to directly investigate Linville’s (1982) ingroup/outgroup complexity hypothesis through a trait-rating and -sorting task. With this methodology, efforts were made to avoid some of the procedural problems evidenced in past stereotyping research. One of these problems involved using traits which were not in any way endorsed by participants as being applicable to the groups to be stereotyped (e.g., Hummert, 1990). To address this issue in the present study, each of the traits presented (from the Adjective Check List [ACL][Gough, 1952]) was first categorized by the participant as being most representative of a young, middle-aged, or older person. By including this step, it was intended that participants create trait clusters from descriptors they felt were valid and appropriate concerning the age group of interest. Also, each participant performed a procedure similar to a Q-sort for each trait for “young,” “middle-aged,” and “older” people, as well as for himself/herself; they placed each trait in one of five stacks, ranging from “most characteristic of …” to “least characteristic of a young person/middle-aged person/older person/myself.”

Another weakness of past studies has been that the relationship between a number of important participant variables and dependent variables has rarely been investigated. Hence, to facilitate the investigation of these variables, all participants in the present study provided basic demographic information (e.g., age, gender, SES) and completed a few
brief measures addressing constructs such as anxiety about aging, degree of experience with older adults, knowledge about aging, social distance, socially desirable responding, and self-esteem.

Some past researchers (e.g., Stier & Kline, 1980) have noted interesting trends in their own results when participant variables have been included in their studies. Concerning subject gender, there have been no strong findings regarding this variable in connection to the characterization of others according to age, but Weinberger and Millham (1975) noted that in ratings of the elderly as a general group, evaluations made by female participants tended to be more extreme than those made by men (e.g., women rated the elderly as a group more negatively in terms of personality and more positively regarding adjustment and intellectual capabilities). Another subject characteristic of interest was a higher level of education, which has been correlated directly by Palmore (1982) with more positive ratings of older persons.

Furthermore, Naus (1973) concluded that persons of a higher SES viewed older adults more negatively on a differential scale, as did raters who had less prior contact with older persons. Similarly, Rosencranz and McNevin (1969) found respondents who had the most previous experience with older adults (especially with grandparents) rated them more positively.

Another participant variable addressed in this investigation was the amount of perceived social distance that exists between subjects and different age groups. Results found by Kidwell and Booth (1977) indicated that, regardless of the age of participants, the greatest amount of social distance was perceived between themselves and older adults.
In this study, one of the research questions of interest was whether perceived social
distance followed this same trend; this information is valuable, given that a main focus in
this project was the “ingroup-outgroup” status of target groups in relation to subjects of
different ages.

This investigation was also different from those which have preceded it in that no
previous trait-sorting studies have utilized participants in the young, middle-aged, and
older age groups to characterize themselves as well as other members of these three age
groups.

Finally, by focusing on Linville’s (1982) complexity hypothesis, an intention of this
study was to operate from a theoretical foundation many past studies have lacked.
Operating from this perspective is important, “in order to better understand potential
causes of attitudes and opinions and to be better able to link them with other important
constructs related to the aging process” (Palmore, 1982, p. 341).

**Hypotheses and Research Questions**

1. In terms of sorting each of the ACL traits into the most appropriate of the three
age groups, it was hypothesized that people would tend to place the most
adjectives into the age group to which they themselves belonged. It was also
predicted that after this step was completed, participants would, in sorting the
constituent traits for each of the age groups, create more numerous and/or more
complex trait clusters for their own age group. Results supporting these
predictions would corroborate Linville’s (1982) ingroup-outgroup complexity
hypothesis.
2. In addition to these previous steps, each rater was asked to choose, from an
original complete set of traits, specific traits which best described him/herself. It
was hypothesized trait conceptualization in this case would result in the most
complex of all created descriptions (including those of the three age target
groups), which would corroborate the results of Linville (1982) and Brewer and

3. Concerning some of the additional participant variables investigated,
predictions were made regarding anxiety about aging, the amount of experience
with older adults, and knowledge about aging. It was predicted that people who
were more anxious about aging themselves, had more limited knowledge about the
aging process, and/or who had less lifetime experience with older adults would
sort traits for the oldest age groups in a less complex manner (fewer traits chosen,
fewer categories created). Such findings would be in accordance with results
reported in Hale (1998). Hale found that persons who scored lower on a measure
of knowledge about aging and had less lifetime contact with older persons were
more likely to stereotype older people in general (and hence to have less complex
conceptualizations of the elderly).

4. Operating under similar reasoning, it was also hypothesized that individuals
who perceived greater social distance between themselves and other age groups
would describe the different groups in more “absolute” terms, thereby also
resulting in trait clusters of less complexity.
5. Finally, general research questions were raised which were exploratory in nature, such as the relationship between participant age, gender, ethnicity, SES, educational level, and social desirability scores and the dependent measure, which was the complexity of the trait clusters across the four different sorting groups (i.e., self, young, middle-aged, and older).
CHAPTER II

METHOD

Subjects

One-hundred-fifty-three participants (Female=99; Male=54) completed the card sort procedure. Fifty-two “young” (Female=36; Male=16; M Age=23.54; SD=4.45; Range=18-35 years), fifty “middle-aged” (Female=30; Male=20; M Age=48.82; SD=5.59; Range=40-59 years), and fifty-one “older” (Female=33; Male=18; M Age=71.94; SD=5.47; Range=62-85 years) participants were recruited. Participant gender was not significantly different between the three age groups. Sources for participant recruitment included the University of North Texas undergraduate Psychology students, volunteers from the local community, persons from local senior community centers, and members of a hospital volunteer auxiliary. Participants who were students were presented the task in the Psychology building at the university, and other volunteers completed the card sort in their home, place of employment, or senior center. The majority (85.6%) of participants described themselves as Caucasian. The other ethnicities endorsed were African American (6.5%), Asian (3.9%), Hispanic (1.3%), and Other (.7%). The three participant age groups did not differ significantly from each other in terms of ethnicity. Thirty-seven participants (26.1%) reported an annual income of $9,999 or less, 20 (14%) reported earning between $10,000 and $19,999, 11 (7.8%) reported earning between $20,000 and
$29,999, 18 (12.7%) claimed between $30,000 and $39,999, and 55 (38.7%) reported an annual income of $40,000 or more. A one-way analysis of variance (ANOVA) with Tukey's HSD range test was conducted to investigate any differences in income according to participant group. The youngest group reported the lowest annual income (average range between $7,500 and $9,999), followed by the oldest age group (average range between $25,000 and $27,499), with the middle-aged group reporting the highest income (average range between $37,500 and $39,999). Regarding educational attainment, 28 participants (18.9%) reported attending 12 years or less of formal schooling. Eighty-two participants (55.4%) said they completed 13 to 16 years of school and 38 (25%) said they received 17 or more years of formal education. Analysis of variance and post-hoc testing did not reveal any differences between participant groups in terms of educational attainment. For complete demographic information see Tables A-1 through A-4 (Appendix A).

Procedure

There were no requirements to determine potential subjects’ eligibility to participate other than their interest and no exclusionary criteria other than visual deficits severe enough to make completion of a card-sorting task impossible. Before beginning, the procedures of the study were explained, as well as steps taken to protect confidentiality. Interested subjects were given informed consent forms to sign (see Appendix B). These forms were typed in print large enough for persons with moderate visual deficits to be able to read. A witness was present at the time each subject signed the consent form and a copy of the consent letter was offered to the subject to keep.
University students were given extra credit points in exchange for their participation and participants in the "older adult" group (65 years old and older) were entered into a drawing for one of four $25 department store gift certificates.

Once consent was obtained, subjects were asked to complete a packet containing some general demographic questions and brief measures. The packet included: (a) a demographics and information sheet in which the participant provided his/her age, ethnicity, gender, SES level (by checking a level indicating a yearly income range), highest level of education, as well as additional items addressing previous contact with adults of different age groups described later in the "Instruments" section (see Appendix C); (b) The Facts on Aging Quiz (Palmore, 1980) (see Appendix D); (c) the Marlowe-Crowne Social Desirability Scale-Short Form (Strahan & Gerbasi, 1972) (see Appendix E); (d) the Social Distance Scale (Kidwell & Booth, 1977) (see Appendix F); (e) the Self Esteem Scale (Rosenberg, 1965) (see Appendix G); (f) the Alzheimer's Disease Knowledge Test (Dieckmann, Zarit, Zarit, & Gatz, 1988) (see Appendix H); and (g) the Aging Opinion Survey (Kafer, Rakowski, Lachman, & Hickey, 1980) (see Appendix I).

Next, the 115 traits selected from the Adjective Check List (ACL) (Gough, 1952) (see Appendix J) were presented in alphabetical order, each printed in large type on a card. Each subject received the following instructions, which were presented verbally by the investigator (written instructions were also presented if necessary):

Sort these words into three different stacks -- one characteristic of younger people, one of middle-aged people, and the third of older people. There are no
right or wrong answers, but what is important is that you put each card with the age group where you think it fits best.

When this was completed, the following written instructions were provided (the order of the target age groups were counterbalanced to help control for order effects):

Looking at the three piles you organized for young, middle-aged, and older adults, first sort the cards in the young/middle-aged/older adult stack into five smaller stacks. In stack number five put the cards you feel are the most representative of young/middle-aged/older people, and in stack number one put the words which are least representative. Try to distribute the cards across stacks one through five as evenly as you can. (This step was performed for each of the three age groups.)

The investigator then recorded the responses for this task. The participant was returned the three originally sorted stacks of cards (young, middle-aged, older) and the following instructions were given:

Looking at the three piles you organized for young, middle-aged, and older adults, first sort the cards in the young/middle-aged/older adult stack into as many or as few new piles as you’d like to describe different kinds of people. Try to create clusters of words that fit together to describe different kinds of people in this age group. Again, there are no right or wrong answers. If there are some cards in the stack which you feel do not fit into any of your new groupings, put them into a ‘miscellaneous’ stack. (This step was completed for all three age groups.)
The responses from this step were recorded by the examiner, and a list of the 115 traits was given to the subject (see Appendix J). Each word was presented with a “+,” “N,” and “-” next to it. The following instructions were given verbally by the examiner:

Now I would like you to go through this list of words, which were the words on the cards you sorted. For each word, rate if it has a positive or negative meaning to you. If it is positive, circle the ‘+’ and if it is negative, circle the ‘-.’ If you think the meaning of the word is neutral (it is neither positive nor negative), then circle ‘N.’ Again, there are no right or wrong answers.

After the completion of this task another complete, alphabetized set of cards identical to the first set was given to the participant, along with the following verbal instructions:

Here is another original set of cards just like the one I gave you at the beginning of the session. This time, I would like for you to pick all the words out of the stack which describe you.

After this step, the next instructions were given:

Now I would like you to rate these selected traits in terms of how representative of you each word is. Rate each adjective along the same five-point scale we used earlier for the different age groups, five meaning that the word is very characteristic of you and one meaning the word is less characteristic of you.

The examiner recorded the results of this sort and provided the participant with a list of the 115 adjectives, with all of the most recently chosen words (for the “self” category) highlighted, with the following instructions:
I would like you to rate each of these words you have chosen to describe yourself, by rating them as positive (+), negative (-), or neutral (N). The words you chose have been marked on this sheet.

The chosen cards were then returned, and the participant was given the following instructions:

Finally, sort these cards into as few or as many stacks as necessary to describe aspects of yourself. If none of the words you have chosen fit in any of your created stacks, put them in a ‘miscellaneous’ stack.

To summarize, the procedure in this study consisted of eight steps. These steps, stated again briefly, are:

(1) Sort all of the cards into three different piles for young, middle-aged, and older adults.

(2) For each of these three stacks, sort them into a continuum from stacks numbered one to five, to indicate the representativeness of each adjective.

(3) Subdivide each of the stacks into clusters of traits.

(4) Rate each of the 115 words as positive, neutral, or negative.

(5) From another alphabetized set of cards, choose all of the words to describe yourself.

(6) Sort the chosen cards along a five-point continuum to rate how well each word represents you.

(7) Rate each word chosen to describe yourself as positive, neutral, or negative.

(8) Subdivide the “self” cards into smaller clusters of traits.
The ordering of these steps was not identical between the three target age groups and the self group. This inconsistency was necessary in the interest of recording the card sorts as efficiently as possible and maximizing the work completed by participants during their volunteered time (i.e., minimizing the periods when the participant was not working, waiting on the investigator to record data).

**Instruments**

*Demographics and Information Sheet.* This was the first page of the participant’s survey packet and asked for the person’s age, ethnicity, gender, range of yearly income, educational level, and a Likert-type rating of personal feelings about growing older.

*Items from the Adjective CheckList.* These 115 traits were extracted from Gough’s (1952) Adjective CheckList (ACL). An attempt was made to choose a wide range of adjectives, including those with positive, negative, and neutral meanings.

*Facts on Aging Quiz.* The Facts on Aging Quiz was published in 1980 by Palmore and is a 25-item true/false measure which takes less than five minutes to complete. Palmore (1982) described the measure as being “designed to cover the basic physical, mental, and social facts and the most common misconceptions about aging” (p. 340) and reported that (as of 1982) it had been used in over 40 published studies. Palmore (1980, 1981) stated that test-retest reliability and face validity are high for this measure, although item-to-total reliability is low (alpha = .47)(Palmore, 1980). Alpha coefficients for the three participant age groups ranged from .31 for the older group to .51 for the middle-aged group. The alpha coefficient for the youngest age group was .35. Another measure added to assess knowledge of aging issues was the Alzheimer’s Disease Knowledge Test.
(Dieckmann, Zarit, Zarit, & Gatz, 1988), which includes 20 items and was designed to measure the level of knowledge about Alzheimer's Disease possessed by professional care-givers. Validity studies were conducted across various sample groups with satisfactory results. In terms of reliability, alpha coefficients ranged from .71 to .92. Alpha coefficients for this study were .54 for the young group, .70 for the middle-aged group, and .76 for the older group.

**Socially Desirable Bias.** A shortened version of the Marlowe-Crowne Social Desirability Scale (M-C 1) (Strahan & Gerbasi, 1972) was utilized. The internal consistency alpha coefficients for this measure have ranged from .73 to .88 (Paulhus, 1984, as cited in Blascovich & Tomaka, 1991). Alpha coefficients participants in this study were .70 for the young group, .69 for the middle-aged group, and .63 for the older group.

**Measurement of Self-Esteem.** The Self-Esteem Scale (SES) (Rosenberg, 1965) is a very brief measure designed to assess respondents' feeling of overall self-worth. In terms of reliability, Fleming and Courtney (1984, as cited in Blascovich & Tomaka, 1991) obtained an alpha of .88. In addition Silber and Tippett (1965, as cited in Blascovich & Tomaka) obtained a test-retest correlation of .85. Alpha coefficients for this investigation were .90 for the young participant group, .88 for the middle-aged group, and .76 for the older group.

To address validity, Lorr and Wunderlich (1986, as cited in Blascovich & Tomaka, 1991) found a correlation of .65 between scores on the SES and confidence. In addition,
Savin-Williams and Jaquish (1981, as cited in Blascovich & Tomaka) reported a correlation of .72 between SES scores and scores on the Lerner Self-Esteem Scale.

**Social Distance Scale.** This measure was constructed by Kidwell and Booth in 1977 and consists of 12 items, which are endorsed for each of the provided age groups. Endorsement of four of the items indicates high social distance (e.g., “Would acknowledge him/her when passing”); four indicate medium social distance (e.g., “Would like to have him/her as a coworker”); and four are related to low social distance (e.g., “Would consider as a close, intimate friend”). In computing the social distance scores, high, medium, and low items are weighted 1, 2, and 3 points, respectively. The scores are added together, then subtracted from 36 (the maximum total). The higher the resulting score, the higher the social distance. This measure is one of a few which measures this construct, particularly within the context of different age groups; a weakness of the instrument, however, is that sufficient research has not been conducted to establish the psychometric properties of this measure. Alpha coefficients for each of the participant age groups for this measure can be found in Table A-5 (Appendix A).

**Attitudes Toward Aging and Anxiety Towards Aging.** To address these issues, the Aging Opinion Survey (Kafer, Rakowski, Lachman, & Hickey; 1980) was chosen. Two scales from Form III of the survey were utilized and included. The first was the Personal Anxiety Towards Aging scale, which assesses fear and worry one may have regarding his/her own aging (alpha = .65). For the participant groups in this study the following alphas were obtained: young (.67), middle-aged (.73), and older (.63). The second subscale utilized was the Social Value of the Elderly scale, which reflects relationships
with older persons and their role in society (alpha = .60). The alpha coefficients from this study were .67 for the young group, .79 for the middle-aged group, and .75 for the older participant group.
CHAPTER III

RESULTS

Hypothesis I

Hypothesis I predicted participants, when sorting adjectives to describe young, middle-aged, and older groups, would create the most "complex" conceptualizations for their own age group. Complexity was operationalized in two different ways. In the first instance, the proportion of the original 115 cards used to describe each age group was calculated by summing the number of cards chosen and dividing it by the total number of cards possible (i.e., 115). For the second measure of complexity, the information utilized was the number of "subclusters" generated by subjects when asked to create as few or as many groups as they liked to describe persons of different age groups. In this case, for each subject the numbers indicating stack placements for each of the cards were summed, then divided by 115. Therefore, while the first measure of complexity took into account the proportionate number of cards chosen for each age group, the second measure of complexity incorporated the number of subgroupings created to conceptualize different types of persons constituting each age group. Supporting the issue of these measures being independent indices of complexity were the correlations between them, which ranged from .40 to .50, with a mean of .43. Participants could have created a greater number of subclusters, even if a relatively small proportion of cards had been chosen to
describe a target group (and, conversely, few subclusters could have been created even if a large number of cards had been chosen).

For Hypothesis I the data were analyzed using a one-way MANOVA with participant age (young, middle-aged, older) as the independent variable, using these two measures of complexity as dependent variables. For the linear combination of dependent variables as a set, multivariate effects were statistically significant ($F_{16, 284}=3.91, p<.01$). Univariate analysis with the dependent variable being the proportion of cards chosen (the first complexity measure) to describe the young group resulted in statistically significant findings ($F_{2, 149}=17.40, p<.01$). Post-hoc analyses indicated that for the sorts describing younger adults, the younger participant age group chose a greater proportion of cards. In addition, when the dependent variable was the proportion of cards chosen for the older target group ($F_{2, 149}=7.07, p<.01$) post-hoc analysis indicated that the older participant group chose a greater proportion of cards. Findings were not statistically significant when the dependent variable was the proportion of sorts for the middle-aged participant group.

Concerning the second measure of complexity describing the younger target group (i.e., those derived from the "subcluster" values), post-hoc analysis indicated that the younger participant group created a greater proportionate number of subclusters ($F_{2, 149}=7.74, p<.01$). For the second complexity measure, results for sorts of the middle-aged and older participants did not vary by age. Regarding the second complexity index, measures varied concerning the number of subclusters created to describe older adults ($F_{2, 149}=3.08, p<.05$). Post-hoc analysis in this case indicated that middle-aged participants created the greatest number of subgroups, followed by the number created by older
participants. Younger participants created the fewest subclusters. Post-hoc analyses indicated that all means were significantly different from one another.

These findings supported Hypothesis I regarding the sorts describing younger adults, using both measures of complexity. Hypothesis I was also supported in terms of the sorts conceptualizing older adults, but only with the first measure of complexity. Table A-6 (Appendix A) shows the means and standard deviations for both of the dependent variables in this analysis.

**Hypothesis II**

Hypothesis II predicted sorts created by participants to describe themselves would be the most complex of all (i.e., compared to the sorts for the three target age groups), as measured by these same two indices of complexity. Because of previously described procedural issues, only the results from one of the complexity measures was interpreted (i.e., the measure based upon the proportion of cards chosen to describe each target group). In testing this within-subject effect, it was determined that participants did not choose a greater proportion of traits to describe themselves than to describe each of the target age groups. Therefore, Hypothesis II was rejected.

**Hypothesis III**

Hypothesis III proposed that persons who were more anxious about aging, had more limited knowledge about the aging process, and/or who had less lifetime experience with older adults would sort traits describing the older target group in a less complex manner (again, as operationalized by the two measures of complexity) than those who were less anxious, more knowledgeable, and/or had more experience with older people.
Experience with older persons was represented by participants’ scores on the Kidwell and Booth (1977) social distance scale regarding older age groups. Stepwise regression analyses were conducted to determine the extent to which each predictor accounted for variance across persons in terms of the complexity of the sorts, according to the two utilized complexity measures. In addition to predictor variables specified for this hypothesis, in this section other significant predictors from the regression analysis will also be mentioned. Some participant variables (e.g., self-esteem, SES, educational level, ethnicity) were not identified as predictors in the regression analysis, and will therefore not be discussed. For the dependent variable indicating the proportion of cards chosen to describe older persons, important predictors included participant gender (being male) (Beta=-.16, T=-2.18, p<.05), greater knowledge about aging (Beta=.21, T=2.69, p<.01), less anxiety about aging (Beta=-.16, T=-2.06, p<.05), greater perceived social distance with persons 19 to 24 years old (indicated by a lower score) (Beta=-.22, T=-2.97, p<.01), and less perceived social distance with persons 65 to 74 years old (indicated by a higher score) (Beta=.34, T=4.48, p<.01). The beta value reported in these results is the standardized regression coefficient.

The second dependent variable was the number of subclusters created to describe the older age group, also analyzed using a stepwise regression. In this case, two predictors were identified in the regression equation, which were greater perceived social distance with 19- to 24-year-olds (Beta=-.16, T=-1.87, p<.05) and less perceived social distance with 55 to 64 year-olds (Beta=.28, T=3.33, p<.01).
Results from the first of these stepwise regression analyses supported Hypothesis III in that more knowledge regarding the aging process, less anxiety about aging, and greater contact with older persons (as measured by lower perceived social distance scores) were predictors of a higher proportion of traits being chosen to describe older persons. Along these same lines, less perceived social distance with one of the older age groups was found to be an important predictor when the dependent variable was the number of subclusters created to describe the older target group. These findings should be viewed with caution, however, in light of the use of a dichotomous variable (i.e., gender) in a mixed-model regression analysis, in that this predictor is not normally distributed (Tabachnick & Fidell, 1996). A summary of the analysis testing Hypothesis III can be found in Table A-7 (Appendix A).

Hypothesis IV

This hypothesis predicted that, regardless of their own age group, participants who reported greater social distance (indicated by lower scores) with members of certain age groups would perceive that age group in more “absolute” terms, resulting in less complex conceptualizations (i.e., lower proportion of cards chosen, fewer subclusters created). To investigate this question, a stepwise regression analysis was again utilized. In these analyses, six dependent variables were investigated. Each of the two measures of complexity were considered for each of the three age groups (young, middle-aged, and older). In this section, the measure of complexity related to the proportionate number of chosen traits is referred to as the “first” complexity measure and the complexity value based on the number of subclusters created is called the “second” complexity measure.
Some of the results reported in this section are redundant with the results reported for the previous hypothesis. As in the previous section, other significant predictors not directly related to Hypothesis IV will be reported, and participant variables found not to be significant predictors (i.e., self-esteem, SES, educational level, ethnicity) will not be discussed.

The first dependent variable considered in the analysis was the first complexity measure for the card sorts describing young target persons. Participant age, perceived social distance with 19- to 24-year-olds, and perceived social distance with 35- to 44-year-olds were the identified predictors for this dependent variable. Greater perceived social distance with the younger age group was predictive of a lower complexity score (Beta = .30, T = 3.64, p < .01), as was less perceived social distance of the 35- to 44-year-old group (Beta = -.24, T = -3.24, p < .01). The first of these social distance findings supported the stated hypothesis. Findings also indicated that the older the age group of the participant, the smaller the proportion of cards that tended to be chosen to describe the young target group (Beta = -.31, T = -3.80, p < .01).

The second dependent variable was the second complexity measure for the descriptions regarding the young target age group. The two identified predictors in this case were participant age (Beta = -.27, T = -3.24, p < .01) and knowledge of Alzheimer’s Disease (Beta = .16, T = 1.97, p > .05). The first of these findings indicated that the older the participant, the fewer the number of descriptive subclusters created. There was no evidence supporting Hypothesis IV in this specific analysis.
The third dependent variable was the first complexity measure for the sorts describing the middle-aged group. A number of predictors were identified in this case, including participant gender, age, knowledge of aging, anxiety regarding aging, and perceived social distance with the 45- to 54-year-old age group and the 55- to 64-year-old age group. Lower complexity of the middle-aged target group was predicted by more reported social distance with 45- to 54-year-olds (Beta = .30, T = 2.51, p < .05) and less social distance with 55- to 64-year-olds (Beta = -.33, T = -2.49, p < .05). The first of these findings supported Hypothesis IV. Results identifying two participant variables as predictors, which were gender (Beta = .30, T = 3.72, p < .01) and knowledge about aging (Beta = -.27, T = -3.19, p < .01), indicated female participants tended to choose a larger proportion of cards to describe the middle-aged group, as did persons with lower scores on a measure of knowledge of aging.

The second complexity value for the middle-aged target group was the fourth dependent variable in the analysis. No support for the hypothesis resulted from this analysis, as the only resulting predictor was subject gender (Beta = .25, T = 2.97, p < .01). This finding suggested women tended to create more subclusters to describe the middle-aged target group.

The next dependent variable investigated in the stepwise regression was the first complexity measure for the cards describing the older target group. Resulting predictors from this analysis included participant gender, knowledge about aging, anxiety about aging, perceived social distance with 19- to 24-year-olds, and perceived distance with 65- to 74-year-olds. Consistent with Hypothesis IV, less reported social distance with persons...
19 to 24 years of age was predictive of a lower proportion of cards chosen for the older target group (Beta=-.22, T=-2.97, p<.01), as was greater reported social distance with 65-to 74-year-olds (Beta=.34, T=4.48, p<.01). Findings regarding participant variables indicated that men chose a greater proportion of cards to describe older persons (Beta=-.16, T=-2.18, p<.05), as did persons with higher scores on a knowledge of aging measure (Beta=.21, T=2.69, p<.01). In addition, persons with lower scores on a measure of anxiety about aging tended to choose a greater proportion of cards for this age group (Beta=-.16, T=-2.06, p<.05).

Finally, the sixth dependent variable investigated was the second complexity measure for the older target group. Reported social distance with 19- to 24-year-olds (Beta=-.16, T=-1.87, p>.05) and persons in the 55- to 64-year-old age group (Beta=.28, T=3.33, p<.01) were the only two identified predictor variables in this analysis. Results concerning the 19- and 24-year-olds were not statistically significant. Results supporting Hypothesis IV were found for the perceived social distance with 55- to 64-year-olds, indicating that greater perceived social distance with this age group was predictive of fewer subclusters created to describe the older target group. Results overall confirmed Hypothesis IV and a summary of these analyses can be found in Table A-7 (Appendix A).

Additional Findings

For each of the 115 adjectives used in the card sorts, two weighted scores were calculated. The first score for a trait was its card's position in the sort requiring its placement along a one to five continuum, indicating its representativeness of the group in question (e.g., young, middle-aged, older, or self) multiplied by its valence score (+1, 0, or
For instance, a word rated as very representative (placed in stack five) and given a positive rating in terms of its meaning (+1) would have a weighted score of +5. For ease of discussion this score is referred to as the “sort score.” Possible sort score values ranged from -5 to +5. The second weighted score was derived from its placement among the subclusters created to describe the age group, multiplied by its valence score. This weighted score is called the “cluster score.” As with the sort score, the positive or negative value of the cluster score corresponded to the positivity or negativity of the meaning attributed to it (words defined as neutral resulted in a score of 0). The range of possible cluster score values was -9 to +9 (as many as nine subclusters were created by participants). For each participant, eight weighted scores were calculated (i.e., a sort score and a cluster score for each of the young, middle-aged, old, and self target groups).

To investigate the issue of the magnitude and valence of each of these scores for the young, middle-aged, and older participants, a 4 X 3 mixed MANOVA was conducted. The within-subjects independent variable was the group being rated (young vs. middle-aged vs. old vs. self) and the between-subjects independent variable was the age of the participant (young vs. middle-aged vs. old). The dependent variables investigated were the eight weighted scores as described above.

Findings from the multivariate and univariate analyses investigating a main effect of participant age were nonsignificant ($F_{4, 292}=2.10, p>.05$). However, the main effect of the group being rated was statistically significant ($F_{6, 889}=127.82, p<.01$). In this case the two dependent variables were the collective scores of the sort scores and the cluster scores. Multivariate analysis of the sort scores yielded significant results ($F_{2, 441}=343.84,$
as did multivariate analysis of the cluster scores ($F_{3.441} = 186.96, p<0.01$).

Univariate analyses of this within subject main effect yielded significant results regarding the sort score for the middle-aged group ($F_{147} = 901.62, p<0.01$), the sort score for the self group ($F_{147} = 83.73, p<0.01$), the cluster score for the middle-aged target group ($F_{147} = 336.79, p<0.01$), and the cluster score for the self group ($F_{147} = 104.44, p<0.01$). These results suggested both the sort scores and the cluster scores were greatest for the self target group, followed by the middle-aged target group and then the older group. The sort and cluster scores were lowest for the young target group. Post-hoc analyses indicated that these means were statistically different from each other, although absolute differences were small. Means and standard deviations for this within-subjects main effect can be found in Table A-8 (Appendix A).

Next, multivariate analysis was conducted investigating the interaction effect of the age of the participant and the target group being rated ($F_{12.890} = 2.48, p<0.01$). Univariate analysis indicated this interaction to be particular to the old cluster scores ($F_{2.147} = 5.56, p<0.01$), and the self cluster scores ($F_{2.147} = 5.20, p<0.01$). Post-hoc analyses indicated young participants' responses yielded the highest cluster scores for the young target group, as did the middle-aged participants' responses regarding the middle-aged target group. The responses of the middle-aged participants also generated the highest cluster scores in describing the older target group. In describing the self target group, the young and middle-aged participants generated cluster scores of equal magnitude, which were greater than the self cluster scores generated by the older participants. Means for each of the card sorts were found to be statistically different from each other, except for the number of
subclusters created to describe the young target group by the young and older participants. Although this interaction was statistically significant, absolute differences between means were again not large. Means and standard deviations for these additional analyses can be found in Table A-8 (Appendix A) and are illustrated in Figures K-1 and K-2 (Appendix K).

In addition, supplemental correlations were calculated between the two weighted scores (sort scores and cluster scores) and the two complexity scores (the first and second complexity scores). These analyses were exploratory in nature and revealed some positive and negative relationships between the complexity and weighted scores. Findings were not surprising in that within the same target groups, correlations between the two weighted scores (e.g., the sort score and cluster score for the young [or middle-aged, older, self] target group), between the two complexity scores (e.g., the first and second complexity scores for the young [or middle-aged, older, self] target group), and between each of the weighted scores and each of the complexity scores (e.g., the cluster score and one of the complexity measures for the young [or middle-aged, older, self] target groups) were positively correlated. Complimenting these findings were negative correlations between these same various score combinations between different target age groups (e.g., between the second complexity measure for the middle-aged target group and the sort score for the older age group). The positive correlations were all significant at the .01 level. Only some of the negative correlations were statistically significant. These correlation coefficients are included in Table A-9 (Appendix A).
Finally, post-hoc analyses were conducted to determine if the ages of persons participants reported living with differed according to participant age. In the demographics questionnaire, participants were asked to list the ages of persons with whom they currently live, participants could list up to five ages. For the two ages listed, results indicated a significant differences between the roommate ages provided by the three different participant age groups ($F_{2,114}=66.11$, $p<.01$). The mean roommate age listed by the young participant group was 29.07 years, the mean age given by the middle-age group was 48.89 years, and the mean age provided by the older participant group was 65.08 years. Statistically significant differences were also found regarding the second roommate ages provided by the participants ($F_{2,48}=10.72$, $p<.01$), specifically between the youngest group ($M=26.03$ years) and oldest group ($M=47.42$ years) and between the middle-aged group ($M=21.77$ years) and oldest group. For the remaining three ages which could be provided by participants, no significant differences were detected. Finally, zero-order intercorrelations between participant variables were conducted and can be found in Table A-10 (Appendix A).
Hypothesis I, which predicted participants would create the most complex card sorts regarding the age group to which they belonged, was supported by the results concerning some age groups, using two specific measures of complexity. For an index of complexity measuring the proportion of cards chosen to describe each age group, significantly higher scores were provided by younger participants to describe the younger target group. Also supporting this hypothesis was the finding that older adults provided sorts using a significantly higher proportion of cards to describe the older target group. A second measure of complexity involved the number of subclusters created to describe each age group. For this complexity index, analyses yielded one finding which supported Hypothesis I, in that younger adults created the greatest number of subclusters to describe the younger target group. Along with these findings are the results yielded by post-hoc analyses, which were consistent with the idea of persons indicating greater affiliation (i.e., an “ingroup” connection) with others of similar age groups. Contrary to the hypothesis was the finding indicating that, with this complexity measure, middle-aged participants created the highest number of subclusters to describe older adults, followed by the number created by older participants (in this case younger adults created the fewest).
One possible explanation for this occurrence could be that the middle-aged participants were identifying more with the older target group than were the younger participants. If this were the case, it could be due to the middle-aged participants' more imminent transition into this age group. It could have been that, in creating subclusters to describe the older target group, the middle-aged participants were also thinking of themselves in the future. If this is true, in relation to other subjects, the difference of these participants' pattern of card sort complexity for the older target group compared to that for the other target groups (i.e., young, middle-aged, self) could be explained by what Halberstadt, Niedenthal, and Setterlund (1996) described as the temporal organization of the "self system." In other words, middle-aged participants may have had more complex conceptualizations of the older target group because of their unique perspective regarding their future self-concepts and the particular salience of what it means to be an older person. These results can also be related to the findings of Peterson, Hall, and Peterson (1988) who found that participant age was positively correlated with scores on a test of mental health in older age. They stated that "the consciousness that one is growing older, motivates the adult to seek out accurate information about the mental health in old age and to treat unpleasant folklore and stereotypes with greater skepticism than a young person who considers old age to be too far away to have any personal significance" p.135. Observations made by Rodin and Langer (1980) could help explain why the older participants did not describe their own age group in a more complex fashion. They discussed how older persons themselves may come to adopt some stereotypical negative attitudes about the elderly (e.g., that many older persons are senile), as a result of
exposure to societal stereotypes and the automatic attribution of performance changes to
the aging process.

Hypothesis II predicted card sorts created by participants to describe themselves
would be more complex than those created to describe any of the target age groups.
Again, because of the procedural alterations, results for only one of the complexity
measures will be interpreted. The complexity measure utilized for this hypothesis was the
one which took into account the proportion of cards chosen to describe each target group.
The sort from which this measure was derived was administered first for all of the target
groups (i.e., young, middle-aged, older, self). The second complexity measure (i.e., the
one derived from the sorts involving the creation of subclusters to describe target groups)
was not interpreted for this hypothesis, due to its different position in the sort sequence
for the self target group. Specifically, for the young, middle-aged, and older target
groups, the subclusters for each of these groups were created before the meanings of the
115 adjectives were rated. For the self target group, the subclusters were created after the
words were defined as being positive, neutral, or negative in meaning. It is uncertain
whether this would have had an impact on the subclusters created.

In terms of the first complexity measure, findings did not support Hypothesis II.
Specifically, participants did not choose a significantly higher proportion of cards to
describe themselves than they did for any of the target age groups. Inspection of means
and standard deviations showed, however, that while the mean proportion scores for the
self target group did tend to be higher, the standard deviations for these means were also
greater than for the means of the young, middle-aged, and older target groups. Therefore,
while some participants did likely have the greatest proportion of traits chosen for the self
target groups, there was much variance across subjects in terms of how they
conceptualized themselves.

Hypothesis III proposed that persons who were more anxious about aging, had
less knowledge about the aging process, and/or who had less experience with older adults
would describe this target group in a less complex manner than those who were less
anxious about aging, had more knowledge about the aging process, and had more
experience with older persons. Again, the two previously described complexity measures
were utilized. “Experience with older persons” was operationalized by scores on a
measure of perceived social distance on the part of the participants towards persons of
various age groups. In terms of the proportion of cards chosen to describe older adults,
this hypothesis was supported in that more cards were chosen when the participant
demonstrated greater knowledge about the aging process, less anxiety about aging, and
less perceived social distance between themselves and 65- to 74-year-olds. Regarding the
other complexity measure, more subclusters were created when subjects perceived less
social distance between themselves and 55- to 64-year-olds.

These results were supportive of Hypothesis III, suggesting these characteristics of
the perceiver (i.e., anxiety about aging, knowledge about aging, and perceived social
distance with older persons) could be predictors of his/her likelihood to oversimplify or
stereotype older persons. These findings compliment the results of Hale (1998), who
reported that for both younger and older participants, higher levels of contact with older
persons was predictive of greater knowledge of aging and less stereotyping of the elderly.
Hale explained her findings in terms of the contact hypothesis and the social identity theory, which can also be applied in interpreting results from the present study. First, the contact hypothesis stated that one of the necessary conditions for members of outgroups to perceive each other more positively (likely involving less stereotyping) is the opportunity for personal contact (which is likely related to perceived social distance). Gaertner et al. (1994), also in discussing the contact hypothesis, stated that “changing the representation from two groups to one group...should reduce intergroup bias by producing more positive feelings toward former outgroup members” (p. 227). This idea of “changing the representation from two groups to one group” can be likened to a member of one age group endorsing little social distance between him/herself and members of another age group. Second, Hale stated the social identity theory describes a tendency of people to maintain and enhance a positive ingroup identity by stereotyping outgroup members. Hale proceeded to explain, however, that if the elderly are perceived as members of the ingroup, they will likely not be negatively stereotyped. Hence, extending this reasoning to include the present findings, it follows that less reported social distance with older persons implied they were more of a part of the ingroup and, in order to preserve the positive identity of the ingroup, older persons were less often stereotyped (i.e., a greater proportion of cards were chosen and more subclusters were created to describe them).

In terms of the other predictor variables for this hypothesis, it is quite understandable how less social distance with older adults is related to less anxiety and greater knowledge regarding this age groups. It also follows that stereotypical responding
(i.e., less complex conceptualizations) can result from greater anxiety and less knowledge about older persons, which further limits social contact, continuing the cycle of conceptualizing older persons as an outgroup (Hale, 1998).

Hypothesis IV predicted persons who reported more social distance between themselves and another age group would describe that age group in more absolute terms, thereby creating less complex card sorts to describe them. To test this hypothesis each of the two complexity measures was analyzed in terms of the three rated age groups. For the complexity measure related to the proportion of cards chosen, some support for Hypothesis IV was found for each of the three rated groups. For the young target group, less sort complexity was predicted by a more reported social distance with 19- to 24-year-olds and less social distance with 35- to 44-year-olds. With the middle-aged target group less sort complexity was predicted by more perceived social distance with persons from 45 to 54 years of age and less perceived social distance with persons from 55 to 64 years of age. Strong support for Hypothesis IV was found in the results regarding the older target group, with a lower proportion of cards being chosen by participants endorsing more social distance with 65- to 74-year-olds and less social distance with 19- to 24-year-olds.

Regarding the complexity measure involving the number of subclusters created to describe the age group, no support for Hypothesis IV was found except for clusters created describing the older group. In this case, fewer subclusters were created when more social distance was reported between the participants and persons 55 to 64 years of age.
All of these reported findings supported Hypothesis IV in that less conceptualization complexity regarding a target group was predicted by less social connectedness with that target group and, occasionally, more connectedness with another group differing in age. Along these same lines, more complex conceptualizations were predicted by greater contact with an age group (e.g., 65- to 74-year-olds) and, occasionally, less contact with a differing age group (e.g., 19- to 24-year-olds).

As with Hypothesis III, the ingroup-outgroup complexity hypothesis can be utilized to interpret these findings. To repeat, members of outgroups (indicated by greater reported social distance) are more often stereotyped (described in less complex terms) than are members of perceived ingroups (Hale, 1998).

**Participant Variables and Card Sort Complexities**

The above analyses also explored the predictive value of participant demographic variables regarding the complexity of their sorts regarding the young, middle-aged, and older target groups. Results from these analyses indicated the older the participant, the smaller the proportion of cards chosen and the fewer subclusters created to describe younger persons. Also, female participants tended to choose a larger proportion of cards and created a greater number of subclusters to describe the middle-aged target group. Male participants, on the other hand, tended to choose a greater proportion of cards than their female counterparts to describe the older target group. These findings regarding gender are interesting in that the relationship between participant gender and the complexity of ratings describing the older group could be explained in terms of previous research findings (i.e., Weinberger & Millham, 1975) and a hypothesis proposed by
Linville (1982). Regarding gender, Weinberger and Millham reported women’s evaluations of the elderly tended to be more extreme that those provided by men. In addition, Linville stated more extreme evaluations of target groups often result in less complex conceptualizations. Therefore, by combining these ideas it could be suggested that the findings in this study (i.e., women creating less complex card sorts describing the older target group than did men) may be due to a more extreme (either more positive or more negative) evaluation of this age group.

Less participant knowledge about aging issues was predictive of a greater proportion of cards being chosen to describe the middle-aged group. It could have been that, in accordance with Hypothesis III, persons with limited knowledge of older adults chose not to assign as many traits to the older target group, instead using them to describe the middle-aged group. Higher scores on a measure of knowledge about aging was predictive of a greater proportion of cards being chosen to describe the older group, which also corroborated Hypothesis III.

The final participant characteristic found to be predictive of card sort complexity was anxiety about aging. Results indicated that having less anxiety about aging was predictive of a greater proportion of cards being chosen to describe the older target group, which also aligned with the predictions of Hypothesis III.

Magnitude and Valence of Weighted Scores

An additional exploratory analysis was conducted to investigate the magnitude and valence of two different weighted scores calculated for each of the rated target groups (i.e., young, middle-aged, older, and self). To review, one score (the “sort score”) was
the product of the word's position along a five-point continuum indicating representativeness and the valence attributed to it. Higher sort scores overall would therefore be due to the adjectives being rated as more representative of a specific group and being defined as more positive traits. The second score ("cluster score") was the product of the position of the word among the subclusters created and its assigned valence. Higher cluster scores would result from a greater number of subclusters being created to describe a target group and more positive meanings being attributed to the words used.

In this analysis, the within subjects independent variable was the target group being rated, and the between subjects independent variable was the age of the participant. The dependent variables were the eight weighted scores (i.e., sort scores and cluster scores for the young, middle-aged, older, and self target groups).

No significant results were found when the main effect of participant age was investigated. However, there was a main effect in terms of the group being rated. It was found that, overall, self target groups had the highest sort and cluster scores, followed by the sort and cluster scores for the middle-aged group. In order of the magnitude of the scores, those generated to describe the older group were the next highest, followed by the lowest scores for the young target group. It can be inferred from these findings that the traits chosen to describe the middle-aged and self groups were judged by participants to be very representative of these age groups, that a large number of subclusters were created regarding these groups, and that the many adjectives chosen were defined as being positive in meaning. Possible explanations for these findings include (a) more complex
and positive conceptualizations participants had regarding the middle-aged target group and themselves, and (b) the words presented to participants for the sorts and often chosen for the middle-aged and self groups just happened to be words which were often defined as positive.

Significant results were also found in terms of the interaction effect between participant age and the group being rated. Consistent with Hypothesis 1, younger participants created the most subclusters for the young target group, as did the middle-aged participants for the middle-aged target group. It was also found that middle-aged participants provided the highest cluster scores for older adults, while young adults gave the lowest. In other words, for the older target group, middle-age participants created the largest number of descriptive subclusters and attributed the most positive meaning to the adjectives used. Younger participants in this case created the fewest clusters and gave more negative meanings to the words. This does not corroborate Linville's (1982) ingroup-outgroup complexity hypothesis. This finding could be indicative of the middle-aged participants having the most complex conceptualizations of the older target group in terms of the number of clusters created and/or the positivity of the attributed traits. It could also be a function of other factors, such as the particular words used in this procedure or participant variables. For the cluster scores regarding the self, young and middle-aged participants' sorts resulted in the highest values, while those of the older participant group resulted in the lowest. In terms of the clusters created to describe the self, younger and middle-aged participants created the largest number of subgroupings and defined each of the words most positively, while the fewest groups and most negative
word meanings regarding the self target were given by the older participants. This also could be explained by the particular words used in this procedure, or it could be due to a tendency of the younger and middle-aged participants in this case to have more complex or positive conceptualizations of themselves than the older participants. If this was the case, perhaps the younger and middle-aged participants differed from the other participants in terms of their perceptions of their own self-aspects, range of life experiences, or tendency to be introspective about life events and their meaning (Linville, 1985). Another possibility is that words were assigned different meanings depending on which target groups they were describing. For example, a word may have been given a positive valence when used to describe the self (e.g., “meticulous”), but been given a neutral or negative valence when used as a descriptor for another target group. Also, it is important when interpreting these findings that, even though statistically significant, the absolute differences between means were not particularly large. It is possible that the interaction detected could have been the result of variability of the mean scores.

Correlations Between Weighted Scores and Complexity Measures

Correlations were calculated between the two weighted scores (i.e., sort scores and cluster scores) and the two complexity measures (again, referred to as the “first” and “second” complexity scores) for each of the target groups (i.e., young, middle-aged, older, self). To review, the first complexity measure took into account the proportion of cards used to describe a target group, while the second measures incorporated the number of clusters created to describe that group.
One question of interest was whether or not the proportionate number of cards chosen to describe a group correlated with the number of subclusters created for that group. Not surprisingly, this was found to be the case; the first and second complexity scores were positively correlated at a statistically significant level for each of the young, middle-aged, older, and self target groups. Along these same lines, correlations conducted between the three different target age groups were all negative (but not always at a statistically significant level). Correlations between the self scores and scores of other age groups were not always negative. These findings indicate that within the same target groups, a higher (or, conversely, lower) proportion of cards chosen to describe a target group was also often accompanied by a greater (or fewer) number of created subclusters.

Another correlation was conducted to determine if there was a relationship between the proportion of cards chosen and the average sort and cluster scores. This first complexity measure was positively related to these two weighted scores for all target groups. In essence, this was interpreted to mean that, within each target group, the proportion of cards chosen was positively related to the rated representativeness of each of the words, the number of subclusters created for each group, and the positivity (or negativity) of the meaning given for each word. Each of these positive correlations was statistically significant. Four of these within target group correlations (those between the first complexity measure and the sort scores) were high enough for the compared measures to potentially be considered redundant of each other. These correlations could suggest that when a high proportion of traits are chosen for a target group, the words are also considered to be positive and describe the target group well from the participants’
perspective. All correlations conducted between the three different age groups were negative, but not all were statistically significant. Furthermore, correlations between the self and different age groups were not consistently positive or negative.

Finally, another question was how the two weighted scores were related to each other. Again, not surprisingly, these were positively correlated within each of the target groups, indicating a significant, positive relationship between the representativeness of traits, number of subclusters created, and valences attributed to each word. Both of these scores incorporated the valence defining the meaning of each one of the adjectives.

Findings from each of these discussed correlations lends support to the idea that the separate indices concurrently measured aspects of conceptualization complexity of each of the target groups. While taking into account some differing characteristics of participant card sorts, it appears the complexity and weighted scores succeeded in measuring some similar aspects of the “complexity” construct. Findings indicate these aspects include how well a word describes a target, as well as the meaning of that word.

Implications

To accommodate the card sort procedure chosen for this investigation, it was necessary to develop new measures of complexity. One of these measures was based on the proportion of cards chosen to describe the target group, and the other was determined by the number of subclusters created for each group. Developing new and unique complexity measures was important in that it provided a way to operationalize complexity for sorts which did not permit redundancy of adjectives across target age groups. Also, the complexity measures created may be effective in reflecting some underlying processes
that occur during target group conceptualization. For example, these complexity measures may capture important aspects of the conceptualization process, such as the representativeness and meaning attributed to each word chosen to describe a target. Also, the complexity measure based on the proportion of cards chosen to describe the older age group may be a reliable and valid indicator of knowledge about aging, anxiety about aging, and connectedness with older persons.

In addition to the development of these new measures, another specific contribution of this study included the recruitment of persons of a variety of age groups to provide descriptions of all ages of adults; past studies (e.g., Hummert, 1993) have tended to have one specific age group (often young adults) describe only one target group (usually older adults). Also, this study provided participants some opportunity to rate the representativeness of each of the adjectives to be used in the sorts. More freedom could have been given had participants been asked to generate their own traits, but this was virtually impossible, given the breadth of descriptions solicited from each participant.

Although results of some of the analyses conducted in the present study were mixed, the significant results found tended to corroborate findings from past studies. These results indicated people often perceived others of ages similar to their own in a more complex way than persons of other age groups. In addition, a very important finding was that greater anxiety about aging, less knowledge about the aging process, and greater perceived social distance with older persons often resulted in more simplistic, absolute conceptualizations than would otherwise be the case. If continued support for these
results are found in future investigations, these three factors could potentially be earmarked as predictors of persons who are at risk for stereotyping the elderly.

It would be particularly helpful for service providers to have knowledge of such reliable predictors, in the assessment of their own approach and biases in working with older persons. Rodin and Langer (1980) conducted a study in which they determined professionals who served the elderly were often influenced by the patient's age in terms of diagnoses made and interventions provided. Awareness of these potential conceptualization patterns in itself can be helpful in that those who recognize these tendencies may give greater consideration regarding their own biases before acting. In addition to awareness, service providers could take active steps to change some personal factors possibly impacting their perception of older persons. Examples include becoming more knowledgeable about the aging process, becoming more connected with older adults, or working to decrease anxieties about the aging process. Also, increased knowledge of these issues can assist clinicians in understanding clients' reactions towards their providers.

On a larger scale, it is intended that the results of this study contribute to the existing knowledge base and help increase understanding of the many intra- and interpersonal characteristics which impact feelings about and interactions with other people. One possibility is the increased awareness resulting from acknowledging perceptions of others can be artificially simplified by factors related more to personal characteristics and experiences than to those of the persons being evaluated. It is hoped that by adding to the information available to both professionals and laypersons, an
increased understanding and meaning can emerge regarding factors related to stereotyping, thereby facilitating the development of more positive and richer intergenerational relationships.

To address this far-reaching issue, Rodin and Langer (1980) studied how the stereotyping of the elderly impacts the persons being evaluated. They explained that after an older person has perceived he/she has been negatively stereotyped and poorer performance is expected, behavior may change in a way that eventually confirms the negative expectation. Consequently, self-esteem and feelings of personal efficacy drop, which further contributes to performance decrements and perpetuates the cycle. Kuypers and Bengston (1973) also discussed the internalized feeling of incompetence that can result from negative stereotyping. Rodin and Langer added many older persons’ concerns about diminished performance are exacerbated by a lack of positive, same-age role models. When these negative events are automatically assumed to be caused by performance decrements due to aging, they may be accepted as inevitable, and corrective or compensatory interventions will not be pursued. Rodin and Langer stated “if these deleterious causal relationships can in fact be demonstrated, the underlying mechanisms determined, and the effects reversed, we expect that there would follow a restoration of both a more positive self-concept and a greater sense of control for the aged as well as less age-stereotyped behavior” (p.13).

Limitations

Many of the limitations of this study are associated with the card sort procedure utilized. First, the order of the sort procedures between the young, middle-aged, and
older target groups and the self target group was different and must be considered when interpreting these findings. As previously explained, this procedural alteration was made in the interest of maintaining participant rapport by making the most efficient use of their significant time commitment being made.

Also, due to the length of time invested by each participant to complete the entire sorting procedure, it was not feasible to allow for redundancy of traits across different age sorts. Because of this, the operationalization of "complexity" in this case was different than in some past studies. For example, in the procedure used by Brewer and Lui (1984), redundancy within sorts was possible, and Scott's H statistic was used as the measure of complexity. Since the use of the H statistic was not appropriate for the data generated by this study, it was necessary to create the two utilized complexity measures, which took into account the proportion of cards chosen and the number of subclusters created to describe each group. Also, concerning the length of the card sort procedure, it is not known whether there was any effect of participant fatigue on resulting card sorts. While no subjects ended the card sort prematurely, some did verbalize that the procedure was lengthy and they were becoming tired. It would have been desirable for the procedure to have been less time consuming and less complicated to score.

Finally, in terms of procedural limitations, it would have been ideal for participants to have been able to generate their own traits with which to describe the target groups. In this case the card sorts would have likely been much more representative of participants' perceptions of themselves and the three different age groups. Again, however, given time constrictions this was not feasible, unless participants were greatly restricted in the number
of traits they could generate. For the procedure that was implemented, a wide range of adjectives were chosen from Gough’s (1952) ACL which were subjectively judged to include words which were positive, neutral, and negative in meaning.

Characteristics of the participant sample were somewhat restricted, limiting inferences that can be made to others. For instance, the younger participant sample was comprised entirely of Psychology undergraduate students, completing the project for extra credit. However, despite this potential methodological confound, findings still corroborated the ingroup-outgroup complexity hypothesis (Linville, 1982), as did findings from the other two participant groups, which were more homogenous than the younger group in terms of recruitment location. The participant sample overall was largely Caucasian (85.6%) and 38.7% reported an annual income of $40,000 or more. Also, many of the persons endorsing the lower annual income ranges were college students, who may very well have had additional, unreported sources of income (e.g., family support). Finally, in terms of educational attainment, 25% of participants reported receiving 17 or more years of formal education. This somewhat limited range of participant characteristics may reflect a homogeneity of experience with older persons, which possibly extended to the descriptive card sorts generated.

Directions for Future Research

Many of the limitations of the present investigation can be a focus of improvement in future studies. In terms of procedural steps, ordering consistencies are encouraged, as is using traits redundantly across different rated groups in order to more fully describe complexity of sorts. Another recommendation is for future investigations to implement a
procedure in which participants have more control regarding the descriptors they use to conceptualize target groups. This could be done via a trait-generation component or allowing participants to choose traits from a pre-existing list. A related issue of interest would be whether utilized traits are given different meanings when applied to different target age groups. Also, to better understand participants’ underlying thought processes when describing different groups, a new direction to take would be to ask them to share their thoughts during the conceptualization process (e.g., having them indicate whether their descriptions of others were based on specific life experiences, assumptions, or their imagination). In addition, it is recommended future investigators make finer discriminations between target age groups, as was done by Hummert (1993) to provide richer and more detailed descriptions (e.g., between the “young-old” and “older old” age groups). It would also be interesting to continue the study of the utility of the two developed complexity measures and more fully investigate their appropriateness and applicability across different settings.

There are a number of different conceptual issues on which future studies can focus. Work could be done to extend the investigation of self-conceptualizations, particularly within varying temporal contexts (i.e., investigating aspects of the “present self” and “future self”). Another possible direction of further research could be to extend the work of Linville (1985, 1987) regarding self-complexity and its relationship with affective responses to stressful events. Also, it is important that future studies continue the investigation of the effects of anxiety, knowledge about aging, and social distance in terms of perceptions of older persons, as results from this study indicated these have the
potential to be predictors of stereotyping of older persons. In addition, it would be
interesting for future investigators to extend these specific issues to the study of other age
groups (i.e., middle-aged persons, young adults, adolescents, children) or concerning
attitudes towards persons of different ethnicities. The card sort procedure utilized in this
study also has potential in application with research in special settings, such as hospice and
nursing facilities, where the perceptions of aging of care providers has particular
importance. As findings from past studies have been varied, it would be valuable for age
and gender effects on stereotyping and conceptualization complexity to continue to be
investigated, in conjunction with other participant variables, such as self-esteem and
socially desirable responding.
APPENDIX A

TABLES
Table A-1

Age Distribution of Participants

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Table A-2

**Participant Ethnicity**

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<td>Caucasian</td>
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Table A-3

**Participant Income**

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Participant Educational Level

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Table A-5

Alpha Coefficients for Age Subscales from Social Distance Scale

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<th>Middle-Aged</th>
<th>Older</th>
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<tr>
<td>19-24 years</td>
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<td>.93</td>
<td>.79</td>
<td>.86</td>
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<tr>
<td>25-34 years</td>
<td>.85</td>
<td>.83</td>
<td>.80</td>
<td>.84</td>
</tr>
<tr>
<td>35-44 years</td>
<td>.85</td>
<td>.86</td>
<td>.70</td>
<td>.80</td>
</tr>
<tr>
<td>45-54 years</td>
<td>.85</td>
<td>.82</td>
<td>.65</td>
<td>.79</td>
</tr>
<tr>
<td>55-64 years</td>
<td>.83</td>
<td>.80</td>
<td>.69</td>
<td>.80</td>
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<tr>
<td>65-74 years</td>
<td>.82</td>
<td>.79</td>
<td>.67</td>
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<td>75+ years</td>
<td>.83</td>
<td>.81</td>
<td>.75</td>
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*aKidwell & Booth, 1977*
Table A-6

Findings for Dependent Measures in Relation to Two Complexity Measures

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<th>Target Grp</th>
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<th>Mid-Aged</th>
<th>Older</th>
<th>Participants Age</th>
<th>F(2, 149)</th>
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<tbody>
<tr>
<td>First Complexity Measure</td>
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<td>.47</td>
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<td>.11</td>
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<tr>
<td>(Proportion Scores)</td>
<td>Mid-Aged</td>
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<td>.65</td>
<td>.61</td>
<td>.12</td>
<td>1.69</td>
</tr>
<tr>
<td></td>
<td>Older</td>
<td>.43</td>
<td>.48</td>
<td>.52</td>
<td>.11</td>
<td>7.07**</td>
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<tr>
<td></td>
<td>Self</td>
<td>.92</td>
<td>.86</td>
<td>.87</td>
<td>.14</td>
<td>2.08</td>
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<td>Second Complexity Measure</td>
<td>Young</td>
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<td>1.02</td>
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<td>.47</td>
<td>7.74**</td>
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<tr>
<td>(Subcluster Scores)</td>
<td>Mid-Aged</td>
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<td>.99</td>
<td>.80</td>
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<td>2.30</td>
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<tr>
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<td>Older</td>
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<td>.76</td>
<td>.72</td>
<td>.24</td>
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<td>1.46</td>
<td>1.22</td>
<td>.69</td>
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*p<.05  **p<.01
Table A-7

Summary of Stepwise Regression Analysis of Predictor Variables for Complexity Scores

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<th>Dependent Measures</th>
<th>Independent Variables</th>
<th>Beta</th>
<th>T</th>
<th>p</th>
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<tbody>
<tr>
<td>First Complexity Score (proportion meas.) for each target group</td>
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<tr>
<td>Young</td>
<td>Soc. Dist. w/ 19-24 year-olds</td>
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<td>&lt;.01</td>
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<td>&lt;.01</td>
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<td>Mid</td>
<td>Gender</td>
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<td>3.72</td>
<td>&lt;.01</td>
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<td>AgeIQ</td>
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<td>&lt;.01</td>
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<td>&gt;.05</td>
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<td>Soc. Dist. w/ 19-24 year-olds</td>
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<th>Independent Variables</th>
<th>Beta</th>
<th>T</th>
<th>p</th>
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<tbody>
<tr>
<td>First Complexity Score (proportion meas.) for each target group.</td>
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<tr>
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<td>Soc. Dist. w/ 25-34 year-olds</td>
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<td>&gt;.05</td>
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<td>-3.45</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Second Complexity Score (subcluster meas.) for each target group.</td>
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</tr>
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<td>&lt;.01</td>
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<td>Self</td>
<td>Gender</td>
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Note. Soc. Dist. = Social Distance, AgeIQ = Knowledge About Aging.
Table A-8

Findings for Dependent Measures in Relation to Two Weighted Scores

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<th>Measure</th>
<th>Target Group</th>
<th>Young Mean</th>
<th>Young SD</th>
<th>Middle-Aged Mean</th>
<th>Middle-Aged SD</th>
<th>Older Mean</th>
<th>Older SD</th>
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<td>63 .33</td>
<td>.33</td>
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<tr>
<td></td>
<td>Middle-Aged</td>
<td>1.60 .45</td>
<td>1.77 .46</td>
<td>1.71 .57</td>
<td>.901.62**</td>
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<td>1.07 .43</td>
<td>1.17 .36</td>
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<td>2.58 .65</td>
<td>2.64 .82</td>
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<td>Cluster Score</td>
<td>Young</td>
<td>.73 .57</td>
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<td>.41 .27</td>
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<td>2.40 1.18</td>
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**p<.01
Table A-9

Intercorrelations Between Complexity Measures and Weighted Scores for Each Target Group

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<th>oldfreq</th>
<th>slffreq</th>
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<th>midclus</th>
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Note. Clst = Weighted Cluster Score, Scr = Weighted Sort Score, Freq = First Complexity Score (based on proportion of cards chosen), Clus = Second Complexity Score (based on proportionate number of subclusters created), Yng = Young Target Group, Mid = Middle-Aged Target Group, Old = Older Target Group.

*p<.05  **p<.01
Table A-10

Intercorrelations Between Participant Variables

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Note. Educ = Level of Education, Group 1 = 19-24 Year-Olds, Group 2 = 25-34 Year-Olds, Group 3 = 35-44 Year-Olds, Group 4 = 45-54 Year-Olds, Group 5 = 55-64 Year-Olds, Group 6 = 65-74 Year-Olds, Group 7 = 75 Years Old and Older, Alziq = Knowledge of Alzheimer's Disease, Ageanx = Anxiety About Aging, Esteem = Self Esteem, Socdes = Socially Desirable Responding, Socvalue = Social Value Attributed to the Elderly, Slfclust = Number of Subclusters Created to Describe Self.
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APPENDIX B

INFORMED CONSENT
Consent to Participate in Trait-Sorting Project

I am aware that for her dissertation Karin Curtiss, from the University of North Texas, is interested in conducting research involving the sorting of traits to describe myself and people of different ages. Ms. Curtiss and I have discussed the project, which is under the supervision of Dr. Bert Hayslip of the Psychology Department, and I am willing to participate. I understand that I will complete the a card-sorting task during one session that will last approximately one to one-and-a-half hours. I know that my involvement is completely voluntary and that I will not be penalized if I choose to not participate, and that I can end the session at any time.

I understand that this exercise will require me to answer some general questions on a brief questionnaire and then to arrange a series of words in 4 card-sorting tasks. I am willing to participate in this study, and I understand that all information collected will be treated as confidential.

I have been informed that information will be recorded with a code number that will allow Ms. Curtiss to determine my identity. At the end of this study the key relating my name with the code number will be destroyed. Under this condition, I grant my permission for this information to be utilized for research purposes only. I know that information about this project may be distributed via scientific journals and conferences in order to benefit others. I am aware that presentations that result from this project will describe group information rather than individual data and that it will be impossible to know who participated in the study.

I understand that there is no risk or discomfort directly involved with my participation in this study. My decision to participate is voluntary and I am willing to become involved at this time. If, however, at any time, even during the task, I become uncomfortable, upset, or wish to discontinue for any reason, I can withdraw from the
study and discontinue my participation. I know that I will not be penalized in any way and will not lose any services or privileges. My questions about the project have been answered to my satisfaction. I understand that should I have any questions in the future, I may contact Karin Curtiss at (409) 741-8797 or Dr. Hayslip at (940) 565-2675.

______________________________    _______________________
Participant                        Date

______________________________    _______________________
Witness                            Date

THIS PROJECT HAS BEEN REVIEWED AND APPROVED BY THE UNIVERSITY OF NORTH TEXAS INSTITUTIONAL REVIEW BOARD FOR THE PROTECTION OF HUMAN SUBJECTS IN RESEARCH 940/565-3940
APPENDIX C

DEMOGRAPHICS QUESTIONNAIRE
Demographics Questionnaire

Code: ________

Age: ________

Ethnicity: ________

Gender: M  F

Yearly Income (check one):

__ 0 - $2,499  __  $20,000 - $22,499  __  $40,000+
__ $2,500 - $4,999  __  $22,500 - $24,999
__ $5,000 - $7,499  __  $25,000 - $27,499
__ $7,500 - $9,999  __  $27,500 - $29,999
__ $10,000 - $12,499  __  $30,000 - $32,499
__ $12,500 - $14,999  __  $32,500 - $34,999
__ $15,000 - $17,499  __  $35,000 - $37,499
__ $17,500 - 19,999  __  $37,500 - $39,999

Years of Formal Education (high school diploma = 12): ______

Circle the number which best represents how you feel about growing older:

1  2  3  4  5  6  7

Not concerned at all  There are some things about aging that concern me
Very upset about aging

List the ages of any people you currently live with:

List the ages of all people you lived with in the past in your previous household (how old everyone was when you last lived with them):
List the ages of neighbors, friends, coworkers, relatives, or anyone else with whom you have regular contact:

With how many of your grandparents have you had contact in your life:

With how many of your grandparents have you (presently or in the past) had a close relationship?
APPENDIX D

THE FACTS ON AGING QUIZ (PALMORE, 1980)
The Facts on Aging Quiz (Palmore, 1980)

Circle T (true) or F (false) for each:

1. The majority of old people (past age 65) are senile (i.e., defective memory, disoriented, or demented).
2. All five senses tend to decline in old age.
3. Most old people have no interest in, or capacity for, sexual relations.
4. Lung capacity tends to decline in old age.
5. The majority of old people feel miserable most of the time.
6. Physical strength tends to decline in old age.
7. At least one-tenth of the aged are living in long-stay institutions (i.e., nursing homes, homes for the aged, etc.).
8. Aged drivers have fewer accidents per person than drivers under age 65.
9. Most older workers cannot work as effectively as younger workers.
10. About 80% of the aged are healthy enough to carry out their normal activities.
11. Most old people are set in their ways and unable to change.
12. Old people usually take longer to learn something new.
13. It is almost impossible for most old people to learn new things.
14. The reaction time of most old people tends to be slower than reaction time of younger people.
15. In general, most old people are pretty much alike.
16. The majority of old people are seldom bored.
17. The majority of old people are socially isolated and lonely.

18. Older workers have fewer accidents than younger workers.

19. Over 15% of the US population are now age 65 or older.

20. Most medical practitioners tend to give low priority to the aged.

21. The majority of older people have incomes below the poverty level (as defined by the federal government).

22. The majority of old people are working or would like to have some kind of work to do (including housework and volunteer work).

23. Older people tend to become more religious as they age.

24. The majority of old people are seldom irritated or angry.

25. The health and socioeconomic status of older people (compared to younger people) in the year 2025 will probably be the same as now.
APPENDIX E

THE MARLOWE-CROWNE SOCIAL DESIRABILITY SCALE

SHORT FORM (STRAHAN & GERBASI, 1972)
Marlowe-Crowne Social Desirability Scale
(MC-1; Strahan & Gerbasi, 1972)

Respond ‘True’ (T) or ‘False’ (F) to the following items:

___ 1. I’m always willing to admit it when I make a mistake.
___ 2. I like to gossip at times.
___ 3. I always try to practice what I preach.
___ 4. There have been occasions when I took advantage of someone.
___ 5. I never resent being asked to return a favor.
___ 6. I sometimes try to get even rather than forgive and forget.
___ 7. I have never been irked when people expressed ideas very different from my own.
___ 8. At times I have really insisted on having things my own way.
___ 9. I have never deliberately said something that hurt someone’s feelings.
___ 10. There have been occasions when I felt like smashing things.
APPENDIX F

THE SOCIAL DISTANCE SCALE

(KIDWELL & BOOTH, 1977)
Social Distance Scale (Kidwell & Booth, 1977)

Below are 12 statements that reflect different ways people feel about each other. Check those statements that reflect the way you feel about people in each different age category. Think of the members of each age group on the whole, not the best you have known, nor the worst. For example, for the first statement check those age categories you would like to have as coworkers. Then, do the same for the other eleven statements.

*Check as many or as few of the age groups that you wish for each item.

1. Would like to have her/him as a coworker.
   - 19-24
   - 25-34
   - 35-44
   - 45-54
   - 55-64
   - 65-74
   - 75-plus

2. Would acknowledge him/her when passing.
   - 19-24
   - 25-34
   - 35-44
   - 45-54
   - 55-64
   - 65-74
   - 75-plus

3. Would confide in her/him about trouble members of family are in.
   - 19-24
   - 25-34
   - 35-44
   - 45-54
   - 55-64
   - 65-74
   - 75-plus

4. Would sit next to him/her on a bus if I didn't know him/her.
   - 19-24
   - 25-34
   - 35-44
   - 45-54
   - 55-64
   - 65-74
   - 75-plus

5. Would initiate a conversation with him/her.
   - 19-24
   - 25-34
   - 35-44
   - 45-54
   - 55-64
   - 65-74
   - 75-plus

6. Would respond to a conversation initiated by him/her.
   - 19-24
   - 25-34
   - 35-44
   - 45-54
   - 55-64
   - 65-74
   - 75-plus

7. Would enjoy spending a week's vacation with her/him.
   - 19-24
   - 25-34
   - 35-44
   - 45-54
   - 55-64
   - 65-74
   - 75-plus

8. Would consider him/her as a lover.
   - 19-24
   - 25-34
   - 35-44
   - 45-54
   - 55-64
   - 65-74
   - 75-plus
9. Would enjoy spending an afternoon with him/her.
   ____ 19-24  ____ 35-44  ____ 55-64  ____ 75-plus
   ____ 25-34  ____ 45-54  ____ 65-74

10. Would consider as a close, intimate friend.
    ____ 19-24  ____ 35-44  ____ 55-64  ____ 75-plus
    ____ 25-34  ____ 45-54  ____ 65-74

11. Would invite her/him to my home for a small dinner party.
    ____ 19-24  ____ 35-44  ____ 55-64  ____ 75-plus
    ____ 25-34  ____ 45-54  ____ 65-74

12. Would call him/her by his/her first name.
    ____ 19-24  ____ 35-44  ____ 55-64  ____ 75-plus
    ____ 25-34  ____ 45-54  ____ 65-74
APPENDIX G

THE SELF ESTEEM SCALE

(ROSENBERG, 1965)
Rosenberg Self-Esteem Scale (1965)

Fill in the number which best describes your level of agreement or disagreement with each of the following statements.

1 (Strongly Agree)  2 (Agree)  3 (Disagree)  4 (Strongly Disagree)

___ 1. I feel that I am a person of worth, at least on an equal basis with others.
___ 2. I feel that I have a number of good qualities.
___ 3. All in all, I am inclined to feel that I am a failure.
___ 4. I am able to do things as well as most other people.
___ 5. I feel that I do not have much to be proud of.
___ 6. I take a positive attitude toward myself.
___ 7. On the whole, I am satisfied with myself.
___ 8. I wish I could have more respect for myself.
___ 9. I certainly feel useless at times.
___ 10. At times I think I am no good at all.
APPENDIX H

THE ALZHEIMER'S DISEASE KNOWLEDGE TEST

(DIECKMANN, ZARIT, ZARIT, & GATZ, 1988)
Alzheimer’s Disease Knowledge Test
(Dieckmann, Zarit, Zarit, & Gatz, 1988)

Circle the letter of the best answer:

1. The percentage of people over 65 who have severe dementia caused by Alzheimer’s disease or a related disorder is estimated to be
   A. less than 2%
   B. about 5%
   C. about 10%
   D. 20-25%
   E. I don’t know

2. The prevalence of Alzheimer’s disease in the general population of the US is expected to
   A. decrease slightly
   B. remain approximately the same
   C. increase in proportion to the number of people over 65
   D. nearly triple by the year 2000
   E. I don’t know

3. The cause of Alzheimer’s disease is
   A. old age
   B. hardening of the arteries
   C. senility
   D. unknown
   E. I don’t know

4. Preliminary research concerning the role of heredity in Alzheimer’s disease suggests that
   A. persons with a close relative with Alzheimer’s disease have an increased risk of becoming afflicted
   B. Alzheimer’s disease is always transmitted genetically
   C. Alzheimer’s disease is only inherited if both parents are carriers of the disease
   D. Alzheimer’s disease is never inherited.
   E. I don’t know
5. Larger than normal amounts of aluminum have been found in the brains of some people with Alzheimer’s disease. Studies investigating the role of aluminum in causing Alzheimer’s disease
A. have determined that it is the major cause
B. have established that it plays a role in the onset of the disease
C. are inconclusive
D. have proven that it is not a cause
E. I don’t know

6. A person suspected of having Alzheimer’s disease should be evaluated as soon as possible because
A. prompt treatment of Alzheimer’s disease may prevent worsening of symptoms
B. prompt treatment of Alzheimer’s disease may reverse symptoms
C. it is important to rule out and treat reversible disorders
D. it is best to institutionalize an Alzheimer’s disease patient early in the course of the disease.
E. I don’t know

7. Which of the following procedures is required to confirm that symptoms are due to Alzheimer’s disease?
A. mental status testing
B. autopsy
C. CT scan
D. blood test
E. I don’t know

8. Which of the following conditions sometimes resembles Alzheimer’s disease?
A. depression
B. delirium
C. stroke
D. all of the above
E. I don’t know

9. Which of the following is always present in Alzheimer’s disease?
A. loss of memory
B. loss of memory, incontinence
C. loss of memory, incontinence, hallucinations
D. none of the above
E. I don’t know
10. Although the rate of progression of Alzheimer’s disease is variable, the average life expectancy after onset is
A. 6 months-1 year
B. 1-5 years
C. 6-12 years
D. 15-20 years
E. I don’t know

11. Most researchers investigating the use of lecithin as a treatment for Alzheimer’s disease have concluded that it
A. reverses symptoms
B. prevents further decline
C. reverses symptoms and prevents further decline
D. had no effect on the disease
E. I don’t know

12. Which of the following statements describes a reaction Alzheimer’s disease patients may have to their illness?
A. they are unaware of their symptoms
B. they are depressed
C. they deny their symptoms
D. all of the above
E. I don’t know

13. Sometimes Alzheimer’s disease patients wander away from home. Caregivers can best manage this problem by
A. reasoning with the patient about the potential dangers of wandering
B. sharing feelings of concern with the patient in a calm and reassuring manner
C. making use of practical solutions such as locked doors
D. remaining with the patient at all times to prevent the behavior
E. I don’t know

14. Which statement is true concerning treatment of Alzheimer’s disease patients who are depressed?
A. it is usually useless to treat them for depression because feelings of sadness and inadequacy are part of the disease process
B. treatments of depression may be effective in alleviating depressive symptoms.
C. anti-depressant medication should not be prescribed
D. proper medication may alleviate symptoms of depression and prevent further intellectual decline
E. I don’t know
15. What is the role of nutrition in Alzheimer’s disease?
A. proper nutrition can prevent Alzheimer’s disease
B. proper nutrition can reverse the symptoms of Alzheimer’s disease
C. poor nutrition can make the symptoms of Alzheimer’s disease worse
D. nutrition plays no role in Alzheimer’s disease
E. I don’t know

16. What is the effect of orienting information (i.e., reminders of the date and the place on Alzheimer’s disease patients?)
A. It produces permanent gains in memory
B. It will slow down the course of the disease
C. it increases confusion in approximately 50% of patients
D. it has no lasting effect on the memory of patients
E. I don’t know

17. People sometimes write notes to themselves as reminders. How effective is this technique for Alzheimer’s disease patients?
A. it can never be used because reading and comprehension are too severely impaired
B. it may be useful for the mildly demented patient
C. it is a crutch which may contribute to further decline
D. it may produce permanent gains in memory
E. I don’t know

18. When an Alzheimer’s disease patient begins to have difficulty performing self-care activities, many mental health professionals recommend that the caregiver
A. allow the patient to perform the activities regardless of the outcome
B. assist with the activities so that the patient can remain as independent as possible
C. take over the activities right away to prevent accidents
D. make plans to have the patient moved to a nursing home
E. I don’t know

19. Medicare will pay for which of the following for Alzheimer’s disease patients?
A. A physician’s diagnostic evaluation of the patient
B. nursing home care expenses
C. homecare expenses
D. all of the above
E. I don’t know
20. Which of the following is a primary function of the Alzheimer's Disease and Related Disorders Association (ADRDA)?
A. conducting research
B. providing medical advice
C. family support and education
D. providing day care for Alzheimer's disease patients
E. I don't know
APPENDIX I

THE AGING OPINION SURVEY

(KAFER, RAKOWSKI, LACHMAN, & HICKEY, 1980)
Aging Opinion Survey - The Personal Anxiety Towards Aging Scale &
The Social Value of the Elderly Scale
(Kafer, Rakowski, Lachman, & Hickey, 1980)

Please choose one of the following to indicate your level of agreement or
disagreement with each statement. Put the number of your choice in the blank.

1 (Strongly Agree)
2 (Agree)
3 (Undecided)
4 (Disagree)
5 (Strongly Disagree)

1. I always dreaded the day I would look in the mirror and see gray hairs.
2. The older I become the more I worry about my health.
3. Most older people seem to need a lot of extra sleep to have enough energy for
everyday chores.
4. I fear that when I’m older all my friends will be gone.
5. The older I become, the more anxious I am about the future.
6. It’s best to forget we’re getting older every day.
7. The older I get the more I worry about money matters.
8. I have become more content with the years.
9. I dread the days when I can no longer get around on my own.
10. I am sure that I will always have plenty of friends to talk to.
11. I never think about dying.
12. The thought of outliving my spouse frightens me.
13. Financial dependence on my children in old age is one of my greatest fears.
14. I know I’ll enjoy sexual relations no matter how old I am.
15. You can keep the joys of grandparenthood, I’d rather be young.

1. Community organizations would function more smoothly if older persons were
included on their governing boards.
2. The older my friends get the less respect they have for the privacy of others.
3. Old people usually interfere with their adult children’s child-rearing practices.
4. I would prefer to always live in an area where people my age predominate.
5. I would always want to live in a neighborhood where there was a variety of age
groups.
6. After retirement one should not have much influence in public policy making.
7. Most people I know feel that the elderly deserve a great deal of admiration.
8. The elderly have a wealth of knowledge and experience that is not sufficiently
utilized.
9. Youthful enthusiasm and fresh ideas should count for more in today’s world than the outdated notions of the older generations.

10. The elderly are one of our great undeveloped natural resources.

11. Older people are more or less a burden for the young.

12. Society would benefit if the elderly had more to say in government.


14. The elderly shouldn’t be expected to do more for society after they retire.

15. Neighborhoods where the elderly predominate often become run down.
APPENDIX J

TRAITS FROM THE ADJECTIVE CHECKLIST

(GOUGH, 1952)
+ N - active + N - healthy + N - rude
+ N - affectionate + N - helpful + N - self-centered
+ N - alert + N - hostile + N - self-confident
+ N - appreciative + N - humorous + N - self-controlled
+ N - awkward + N - imaginative + N - self-pitying
+ N - bitter + N - inpatient + N - selfish
+ N - calm + N - industrious + N - shallow
+ N - careless + N - initiative + N - shiftless
+ N - cheerful + N - intolerant + N - sincere
+ N - clear-thinking + N - inventive + N - slipshod
+ N - complaining + N - irresponsible + N - snobbish
+ N - conceited + N - irritable + N - spineless
+ N - confident + N - jolly + N - strong
+ N - confused + N - kind + N - sulky
+ N - conscientious + N - mannerly + N - sympathetic
+ N - cooperative + N - masculine + N - tactful
+ N - cowardly + N - nagging + N - thankless
+ N - cruel + N - natural + N - tolerant
+ N - deceitful + N - obnoxious + N - touchy
+ N - dependable + N - organized + N - trusting
+ N - despondent + N - original + N - undependable
+ N - determined + N - patient + N - understanding
+ N - energetic + N - pleasant + N - unfriendly
+ N - fairminded + N - posed + N - unintelligent
+ N - fickle + N - prejudiced + N - unkind
+ N - foolish + N - progressive + N - warm
+ N - foresighted + N - quarrelsome + N - weak
+ N - forgetful + N - queer + N - whiny
+ N - gloomy + N - quitting + N - rude
+ N - good-natured + N - rational + N - self-centered
+ N - greedy + N - rattlebrained + N - self-confidence
+ N - handsome + N - relaxed + N - self-control
+ N - hasty + N - resentful + N - self-pitying
+ N - alert + N - imaginative + N - selfish
+ N - calm + N - industrious + N - shallow
+ N - careless + N - initiative + N - shiftless
+ N - cheerful + N - intolerant + N - sincere
+ N - clear-thinking + N - inventive + N - slipshod
+ N - complaining + N - irresponsible + N - snobbish
+ N - conceited + N - irritable + N - spineless
+ N - confident + N - jolly + N - strong
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+ N - foresighted + N - quarrelsome + N - weak
+ N - forgetful + N - queer + N - whiny
+ N - gloomy + N - quitting + N - rude
+ N - good-natured + N - rational + N - self-centered
+ N - greedy + N - rattlebrained + N - self-pitying
+ N - handsome + N - relaxed + N - selfish
+ N - hasty + N - resentful + N - self-control
APPENDIX K

FIGURES
Figure K-1. Participant Age by Target Age Effect (Sort Scores)

Note. Yng=Young, Mid=Middle-Aged, Old=Older, Slf=Self; Score = Sort Score.
Figure K-2. Participant Age by Target Age Effect (Cluster Scores).

Note. Yng=Young, Mid=Middle-Aged, Old=Older, Slf=Self, Clust=Cluster Score
REFERENCES


