Attitudes Toward Aging

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ABSTRACT

Four theoretical explanations for the existence
of negative attitudes toward the old, (1) poor
life satisfaction as measured by loss in socio-
economic status, poor health and financial insecur-
ity, (2) nearness to death of the elderly, (3) in-
ability to reflect American values of achievement,
productivity, and independence and (4) age
stratification were investigated. This study,
based on an earlier study by Collette-Pratt(1976),
attempted to find differences in attitudes toward
aging among three generational groups--young
college adults (n=810), middle-aged adults (n=51),
and older adults (n=58) by administration to each
group of a facts quiz (Palmore, 1977) and an
attitude inventory developed by the author. In
addition, because it was assumed that young adults
would show the most negative feelings toward old
age, an attitude manipulation was attempted by
allowing some college student subjects to view a
film depicting aging positively and then to retake
the facts quiz and attitude inventory.

No significant differences in total score on
the attitude inventory were found among groups that
would indicate increasing devaluation of old age

across generations. The amount of knowledge of
aging, however, appeared to increase with age. The
main effect of film (experimental) group vs. no film
(control) group on attitude score was not significant,
although the sex x group interaction was, in that
males became somewhat more negative while females
became more positive about old age in both groups.
Few of the potential devaluing factors that had
been investigated appeared relevant to attitudes
about the elderly.

ACKNOWLEDGEMENTS

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ATTITUDES TOWARD AGING

The old as no other generational group suffer a negative image. R. N. Butler has coined the term "ageism" to describe the many myths and stereotypes about aging that serve to cause discrimination against the elderly in our society. He describes ageism this way:

> Ageism can be seen as a process of
> systematic stereotyping of and dis-
> crimination against people because
> they are old, just as racism and
> sexism accomplish this with skin
> color and gender. Old people are
> categorized as senile, rigid in
> thought and manner, old-fashioned
> in morality and skills. . . . Ageism
> allows the younger generation to see
> older people as different from them-
> selves; thus they cease to identify
> with their elders as human beings.
> (p. 12)

One may ask what causes ageism and the perpetuation of negative stereotypes about the aging. Four theoretical explanations of why negative attitudes toward old age exist are discussed by Collette-Pratt (1976). The first explanation cited in her paper is that negative attitudes toward old age result from negative attitudes toward low socioeconomic status, poor

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This thesis conforms in style and format to the <u>Journal of Gerontology</u>.

health and loneliness--conditions associated with old age. Life satisfaction research lends support to this explanation as good health, financial security and continuing social relationships are consistently related to positive life satisfaction. A second explanation cited is that the inevitable end--death--is associated with old age leading to negative attitudes toward aging. A third explanation is that "the elderly lack the ability or opportunity to reflect the American values of productivity, achievement, and independence," values which bring political and economic clout (p.193). Finally, age stratification which tends to separate the generations is believed to "foster in young people stereotypes and misinformation about the elderly" (p.193).

Collette-Pratt set about testing the merit of these explanations by using the semantic differential test technique to identify attitudinal predictors of old age devaluation in three generational groups. Ten concepts believed to affect devaluation of old age were tested: (1) poor health, (2) social isolation, (3) death, (4) financial insecurity, (5) achievement, (6) independence, (7) personal productivity, (8) youth, (9) middle-age, and (10) old age (p.194). Her study revealed that each

group devalued old age in comparison to age in general, with the young and middle-aged subjects devaluing old age twice as much as the older subjects. Older subjects were more positive toward all the concepts studied than the young and middle-aged subjects. Poor health was an important factor in devaluation of old age in all three age groups. Death also contributed to devaluation of old age in the young and middle-aged groups.

The present study attempted to replicate Collette-Pratt's conclusions and to look at other factors that may influence negative attitudes toward the old (i.e., low education level, loss of youthful appearance, unpleasant temperament, rigidity and loss of thinking ability), and to measure the amount of knowledge about old age that each generational group possessed using the Palmore (1977) "Facts on Aging" Quiz to discover whether or not a correlation existed between having knowledge about aging and having a positive or negative view of older people. A negative correlation was predicted. It was further predicted that the young would know the least about the elderly (perhaps because of age stratification--lack of contact with the elderly), and would devalue the

old to a greater degree than the other two age groups. Because of this prediction, an attempt to manipulate the young group's attitudes was made through use of a film which depicted aging in a positive way.

The purpose of this study was to determine which, if any, of the theoretical explanations for devaluation of old age are supported, as a first step in finding an effective way to positively change the image of older people.

METHOD

Subjects. Subjects were divided into three groups by age--young adults (18-29 years), middle - aged adults (30-59 years), and older adults (60 plus years); sample characteristics are shown in Table 1. The young adult subject pool was drawn from students in introductory psychology courses at Texas A&M University. Students in introductory psychology are required to serve as subjects in psychological experiments during the semester. The middle-aged and older adult groups were volunteers from various churches and civic groups in the local community.

The entire subject pool was predominantly white and educated enough to read and respond to a prepared questionnaire. Undoubtedly, this pool is biased, being mostly white and of middle to upper income. Collette-Pratt's subject pool also suffered similar biases as it was composed of university students, middle-aged members of church study groups and older adults from senior citizen activity centers. These biases must be considered when one evaluates the results of each study.

Table 1

Subjects' Characteristics

AGE GROUP	OLDER		MIDDLE-AGED		YOUNG	
	F	M	F	M	F	M
N	31	27	35	16	346	464
Age Range	60-90	61-91	30-59	30-59	17-28	17-28
Mean Age	68.5	70.8	42.1	46.3	19.6	19.9
Ethnicity	Anglo	Anglo	Anglo & Minority	Anglo	Anglo & Minority	Anglo & Minority
Facts Quiz Score Range	8-20	7-20	8-25	12-21	6-22	0-22
Facts Quiz Mean Range	15.3 ± 3.3	16.2 ± 3.0	14.6 ± 3.8	16.0 ± 2.7	14.8 ± 8.0	14.8 ± 3.0
Attitude Inventory Score Range	70-90	59-97	54-120	73-96	26-113	23-130
Attitude Inventory Mean Score	97.9	99.0	93.2	96.4	97.7	98.1

F = Female

M = Male

     <u>Materials</u>. A three-part questionnaire was given
to all subjects. The first part consisted of a
data sheet on which subjects reported their age,
sex and ethnicity, income level, and the amount of
contact they had with older adults. The second
part of the questionnaire was a 25 statement true-
false quiz entitled "Facts on Aging" by Erdman
Palmore (1977), to which subjects responded by
circling the letter "T" or "F" by each statement
which they thought to be true or false about people
aged 65 or older. The third part of the question-
naire was a 30 statement attitude inventory written
by the author which tried to tap attitudes toward
aging that may be related to devaluation of old
age: (1) low socioeconomic status, (2) poor
health, (3) social isolation, (4) low education
level, (5) loss of youthful appearance, (6) un-
pleasant temperament, (7) rigidity, (8) loss of
independence, (9) loss of thinking ability and
(10) nearness to death. Subjects rated each state-
ment on a five-point scale. External validation
of the attitude inventory was made with an adapted
Tuckman and Lorge Old Person Scale (Olejnik and
LaRue,1977). The attitude inventory correlated

positively with the Old Person Scale (r = .558, p = .0003). A sample questionnaire is included in Appendix A.

The film "Arthur and Lillie" (released by Pyramid Films, Inc., 1977) was shown also in an attempt to manipulate the attitudes of a portion of the young adults of this study. The film described the lives of Arthur and Lillie Mayer. Arthur Mayer worked in motion pictures throughout his life and after "retirement" he continued to lecture at colleges and universities on the art of the cinema. Scenes in the movie depicted the active traveling life of the couple as they moved from campus to campus giving lectures. Other scenes were of Authur and Lillie entertaining young college students in their home--personally inter- acting actively with the young college students.

Procedure. The middle-aged (n=51) and older (n=58) adults responded to the questionnaire during the early months of 1978. The questionnaire was given to all introductory psychology students at about one week after the beginning of the spring semester. A total of 810 college students responded to the questionnaire initially. One week after the

first administration of the questionnaire (pretest),
approximately 140 introductory psychology students
participated in the attitude manipulation experi-
ment. The experimental group viewed "Arthur and
Lillie" and then re-took the questionnaire while
the control group re-took the questionnaire at
the beginning of the experimental session and then
viewed "Arthur and Lillie" (to provide them with
the opportunity to see the film they had signed
up to see, even though this had no bearing on the
purpose of the present study). This second admin-
istration of the questionnaire constituted the
posttest for the two groups. Differences in
response between the two groups in amount of
change from the pre- to the posttest would indicate
whether the film had an effect in changing the
experimental group's attitude. No change in
response would be expected for the control group.

Scoring. The number of correct answers was
tabulated for the facts quiz. A correct answer
was worth one point. An incorrect answer or
failure to respond to the statement was worth
zero points. The maximum possible score was 25
points. Each entry of the attitude inventory was

worth a maximum of five points. A score range of 30 to 150 points was possible for the attitude inventory. Ninety points was considered the neutral score, with values below and above that score indicating negative and positive feelings for the old, respectively.

Analysis. To compare age groups and their responses to the questionnaire, the protocols of 35 males and 35 females were randomly selected from the pool of 810 college students' responses. Thus, responses from 70 college student subjects were compared with those of 51 middle-aged and 58 older adults. Each dependent measure in the present study was subjected to a 2(sex) x 3(age group) analysis of variance. Variables analyzed by this technique were amount of contact with old people, total score on the facts quiz and attitude inventory, as well as each individual statement of the facts quiz and attitude inventory. Additionally, a 2(sex) x 2(experimental vs. control group) analysis of variance was run on the subset of college students who participated in the attitude manipu-- lation (film) portion of the study, analyzing for changes from pre- to posttest on the facts quiz

and attitude inventory. To assess whether or
not the aged were consistently devalued on each
of the ten factors previously listed, sets of
statements reflecting each factor from the Palmore
quiz were grouped together and were correlated
with sets of statements from the attitude inventory.
Table 2 lists the statements from the quiz and
inventory which were used to measure each factor.
A mean score was computed prior to computing these
correlations for each attitude grouping with a
possible range of five points, one being the least
devaluing and five being the most devaluing score.

Table 2

Statements Used to Measure Ten Factors Hypothesized

as Related to Devaluation of the Old

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Factor	Statement Numbers from "Facts on Aging" Quiz	Statement Numbers from Attitude Inventory
Low Socioeconomic Status	21	1, 13, 14, 24, 27
Poor Health	10	2, 8, 11, 16, 29
Social Isolation	17	3, 11, 18
Low Education Level	16	5, 15, 19, 21
Loss of Youthful Appearance	--	--
Unpleasant Temperament	5, 24	6, 12, 17, 20, 28, 30
Rigidity	11	19, 26
Loss of Independence	7	8, 13, 29
Loss of Thinking Ability	1, 12, 13,	9, 24, 26
Nearness to Death		*4, 7, 22

*Statement 4 of the Attitude Inventory was correlated
with a set composed of statements 7 and 22. No
statement from the Facts Quiz was correlated with
this set.

RESULTS

Analysis of variance tables pertaining to this section in which at least one main effect or interaction is significant are found in Appendices B, C and D.

Contact with Older Persons. A 2(sex) x 3(age group) analysis of variance showed that females reported having the most contact with older persons ($F(1,173) = 5.8896$, $p = 0.0154$). The age x sex interaction was not significant, though the age main effect was ($F(2,173) = 10.1489$, $p = 0.0002$) due to the fact that mean scores indicating amount of contact increased with age in both sexes (young males $\bar{X} = 3.2286$, young females $\bar{X} = 3.7714$, middle-aged males $\bar{X} = 3.7500$, middle-aged females $\bar{X} = 3.9714$, older males $\bar{X} = 4.222$, older females $\bar{X} = 4.8387$). The mean contact scores cited were on a scale from one to six with six indicating the most amount of contact with older people and one the least amount of contact with older people. The amount of contact did not significantly correlate with the amount of knowledge each group had about aging, nor did contact correlate with attitude inventory scores.

Age groups: Knowledge of Aging. As reflected by the mean number of correct responses to the facts quiz, older males knew the most ($\bar{X}$ = 16.2222) while middle-aged females knew the least ($\bar{X}$ = 14.5714) about aging. No main effects or interactions were noted for the 2(sex) x 3(age group) analysis of variance of this variable. However, analysis of variance of statements 7 ("At least one-tenth of the aged are living in long-stay institutions (i.e., nursing homes, mental hospitals, homes for the aged, etc")), 11 ("Most old people are set in their ways and unable to change "), 16 ("The majority of old people are seldom bored "), 17 ("The majority of old people are socially isolated and lonely "), 23 ("Older people tend to become more religious as they age "), and 24 ("The majority of old people are seldom irritated or angry ") of the quiz showed significant age effects. Generally a greater percentage of older adults gave correct responses to these statements than the adults of other age groups, though a greater percentage of young females responded correctly to statements 16 and 23 and a greater percentage of middle-aged males responded correctly to statement 17 in comparison to other age groups.

Significant sex effects were noted for statements 17 and 21("The majority of older people have incomes below the poverty level (as defined by the Federal Government)") with a larger percentage of males rather than females responding correctly to these items. Interactions of age and sex were found for statements 2("All five senses tend to decline in old age"), 10 ("About 80% of the aged are healthy enough to carry out their normal activities"), and 24 ("The majority of old people are seldom irritated or angry"), and are graphed in Figures 1, 2, and 3.

Age Group Effects: Attitude Inventory. No significant main effects or interactions were noted in the analysis of variance of the attitude inventory across the three age groups. Interestingly, old males had the highest mean score ($\bar{X}$ = 95.5926) and youngest females' mean score followed closely behind ($\bar{X}$ = 94.5714). Old and middle-aged females were about neutral in their attitudes toward aging ($\bar{X}$ = 90.0645 and 90.7143, respectively).

Age effects were found for statements 1 ("Old people are unable to live at the same socioeconomic level of their middle-aged years"), 15 ("As one
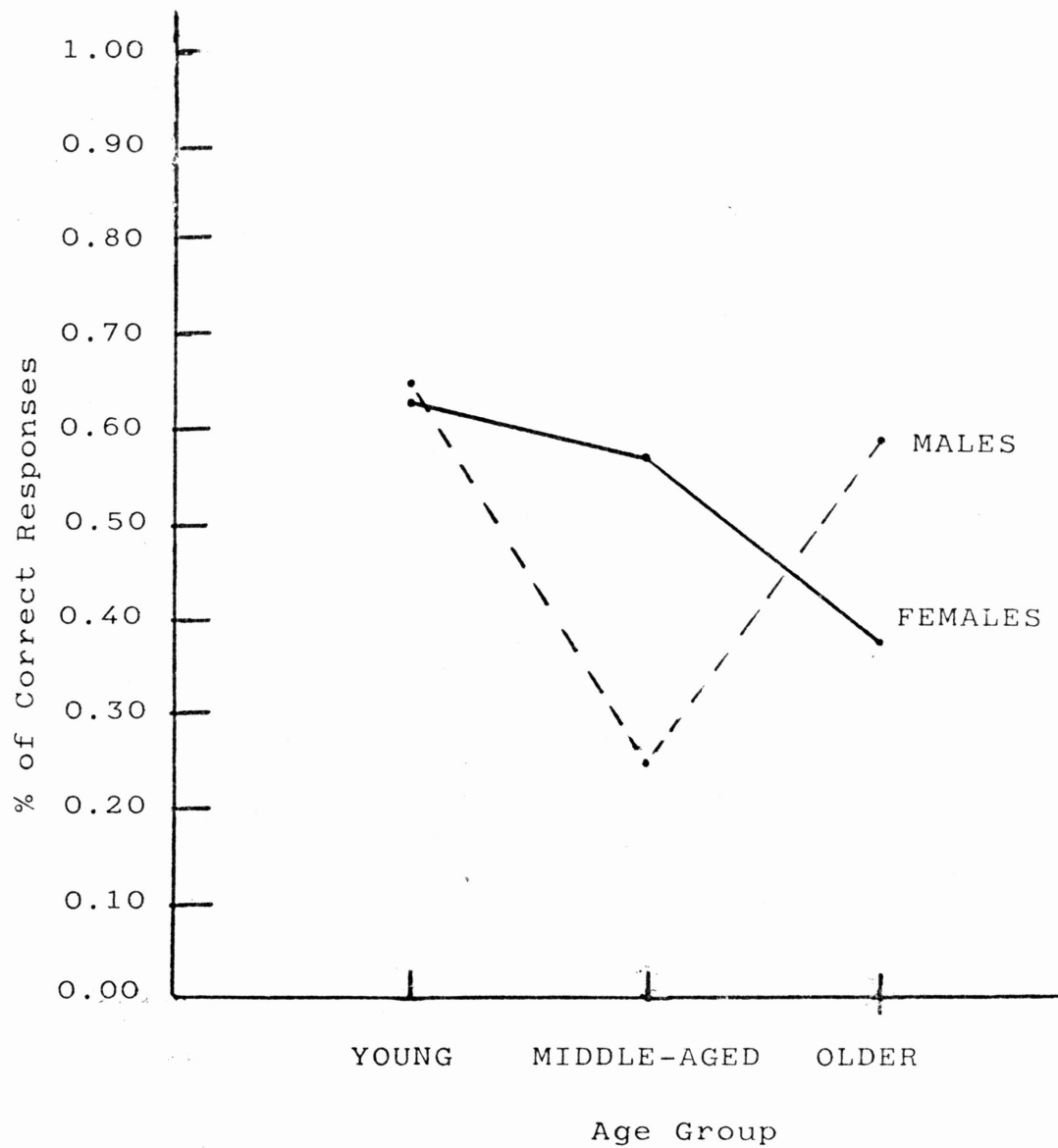
Figure 1. Sex x age group interaction in response to facts quiz statement 2: "All five senses tend to decline in old age."
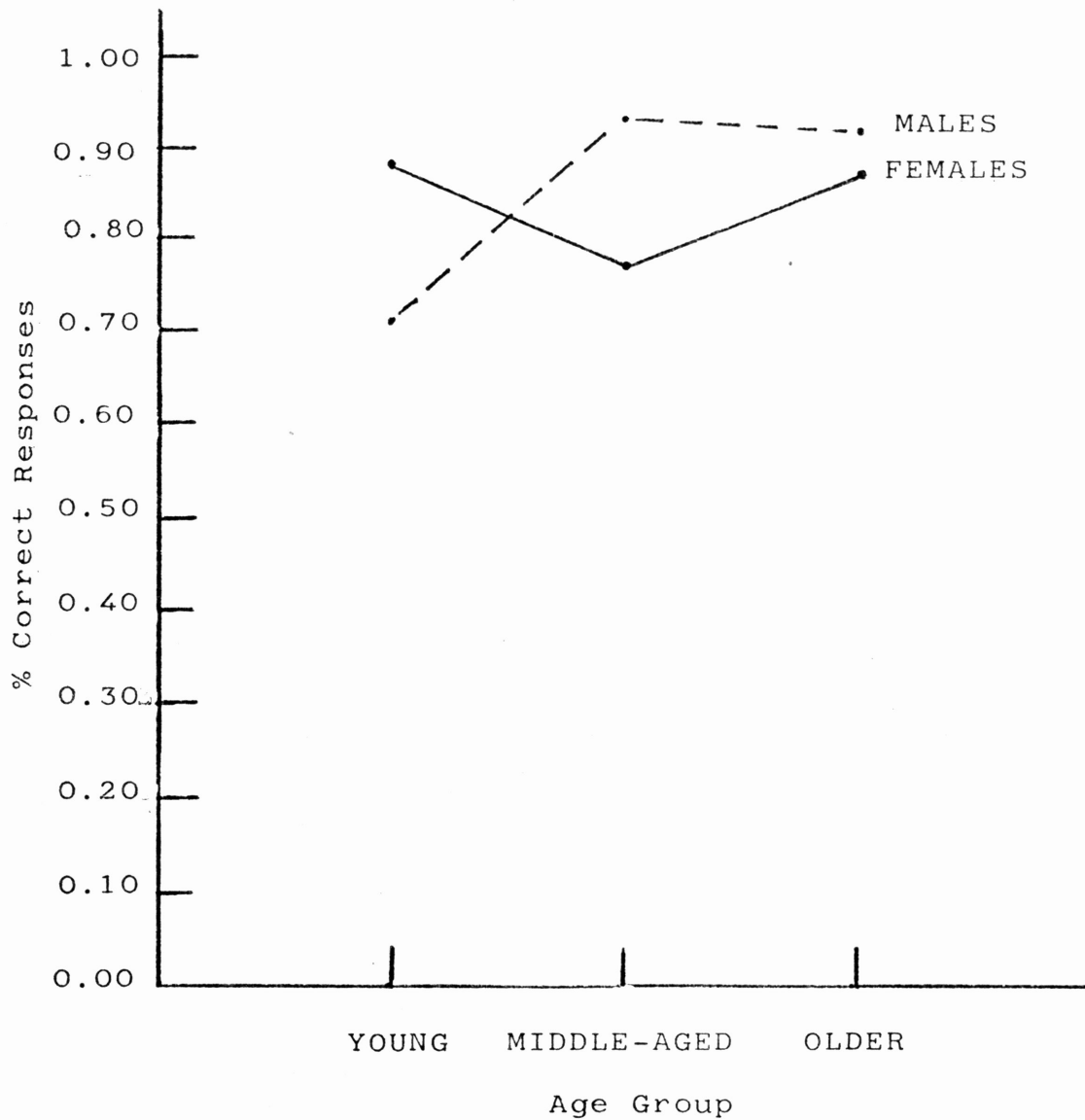
Figure 2.   Sex x age group interaction in
response to facts quiz state-
ment 10:   "About 80% of the
aged are healthy enough to
carry out their normal activi-
ties."
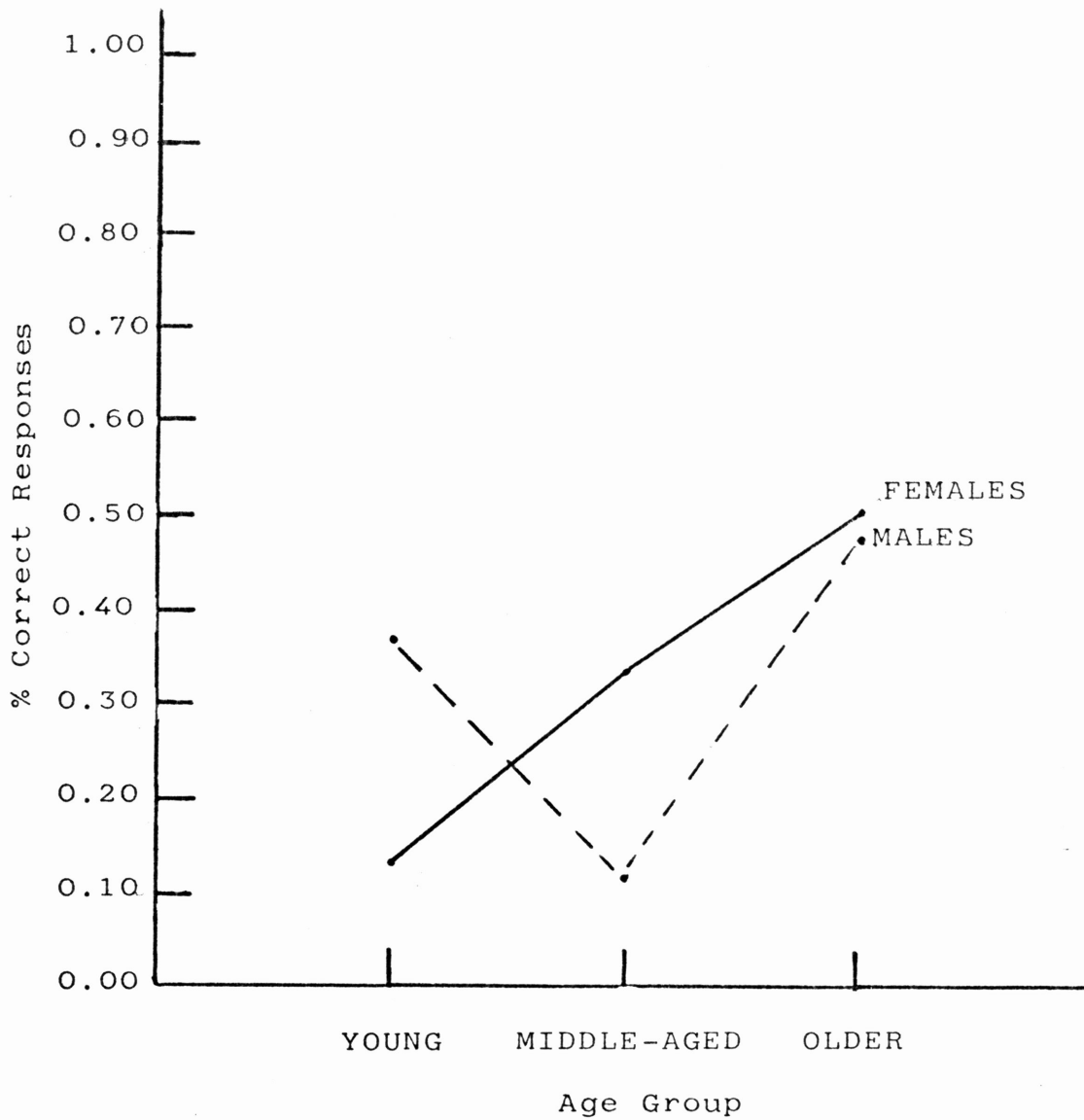
Figure 3. Sex x age group interaction in
response to facts quiz state-
ment 24: "The majority of old
people are seldom irritated or
angry."

ages, he/she realizes that there is still much
to learn"), and 18 ("Too much excitement and
noise when friends, relatives and children visit
bothers most old people"), with young adults
responding positively to statements 1 and 18 and
older adults responding more positively to state-
ment 15. Sex effects occurred for statements
7 ("The knowledge that death is approaching with
each passing year makes the old feel more insecure")
and 14 ("Most old people have only enough money
to purchase the necessities for living"), males
generally responded more positively to these
statements that did females. Age x sex interactions
are graphed in Figures 4, 5, 6, and 7 corresponding
to statements 8 ("The ability of the older person
to get out and do new things is impaired by his/her
dependence on others for transportation "),
12 ("There are a lot of individual differences
in older people's temperaments "), 21 ("If older
people are better educated in their youth, later
life will be personally more satisfying "), and
22 ("Old people are reluctant to discuss death.")
with males seemingly becoming more positive about
these statements and females becoming less positive
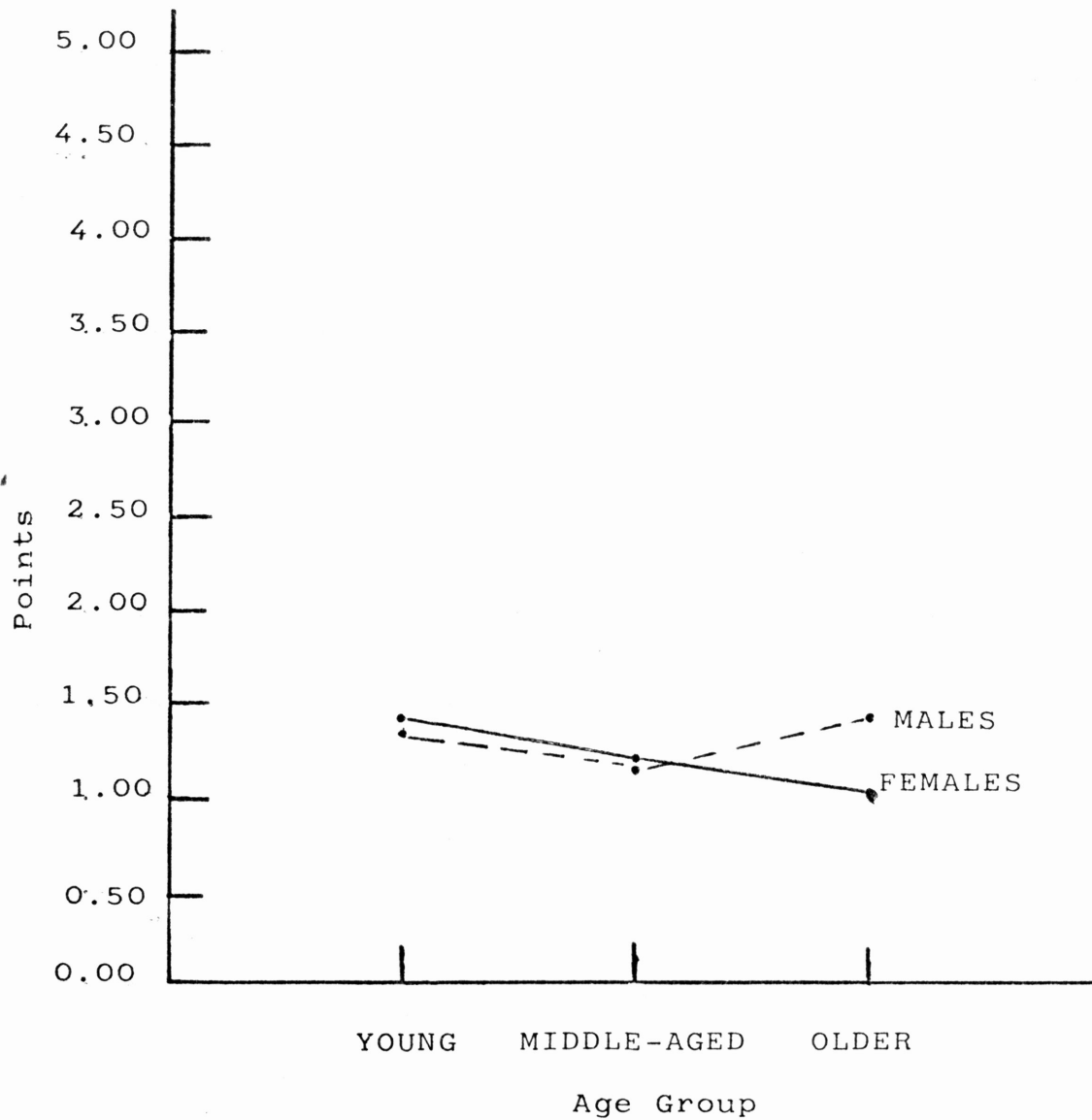
Figure 4: Sex x age group interaction in response to attitude statement 8: "The ability of the older person to get out and do new things is impaired by his/her dependence on others for transportation."
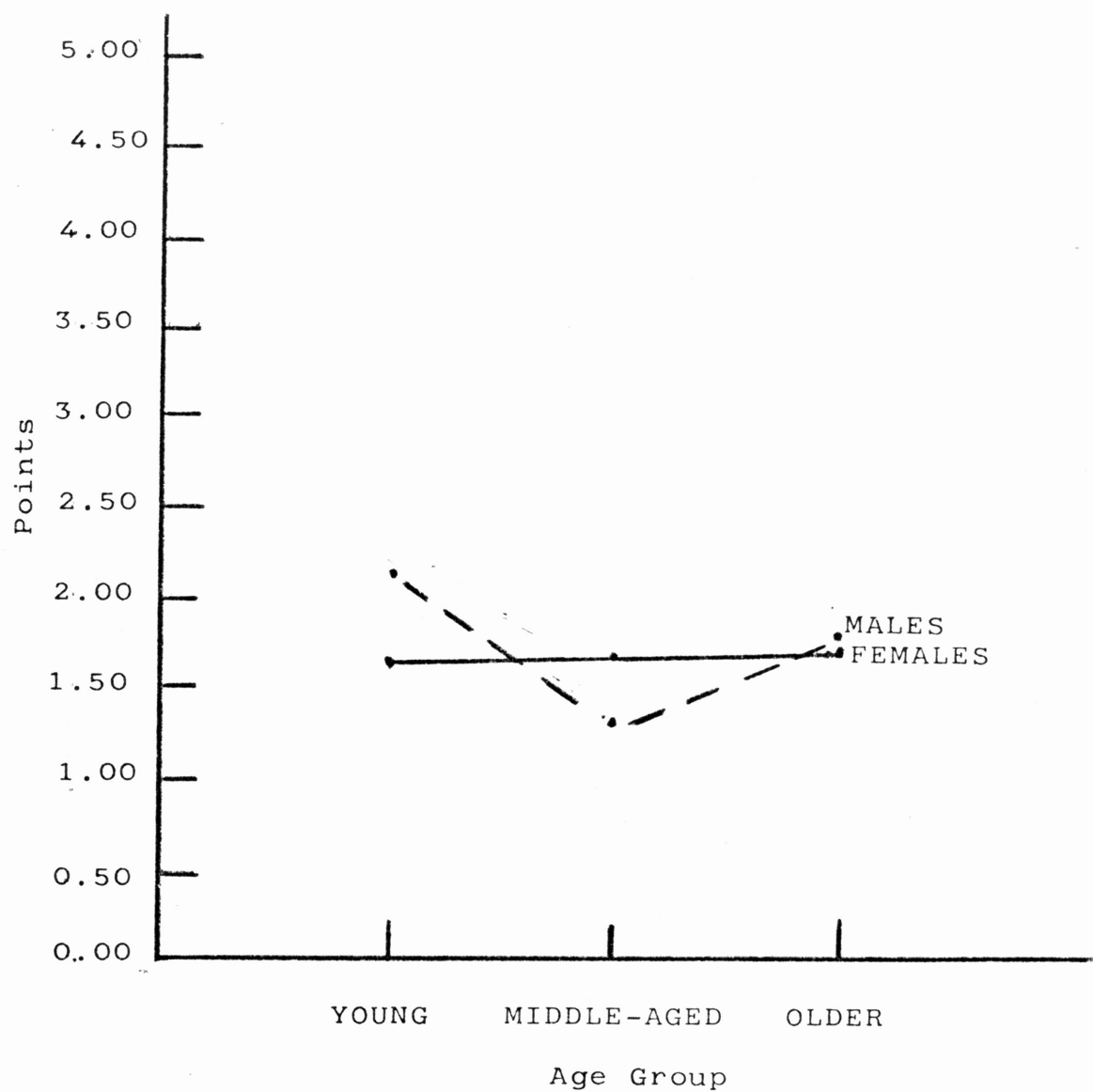
Figure 5.   Sex x age group interaction in
            response to attitude statement
            12:   "There are a lot of indi-
            vidual differences in old peo-
            ples temperaments."
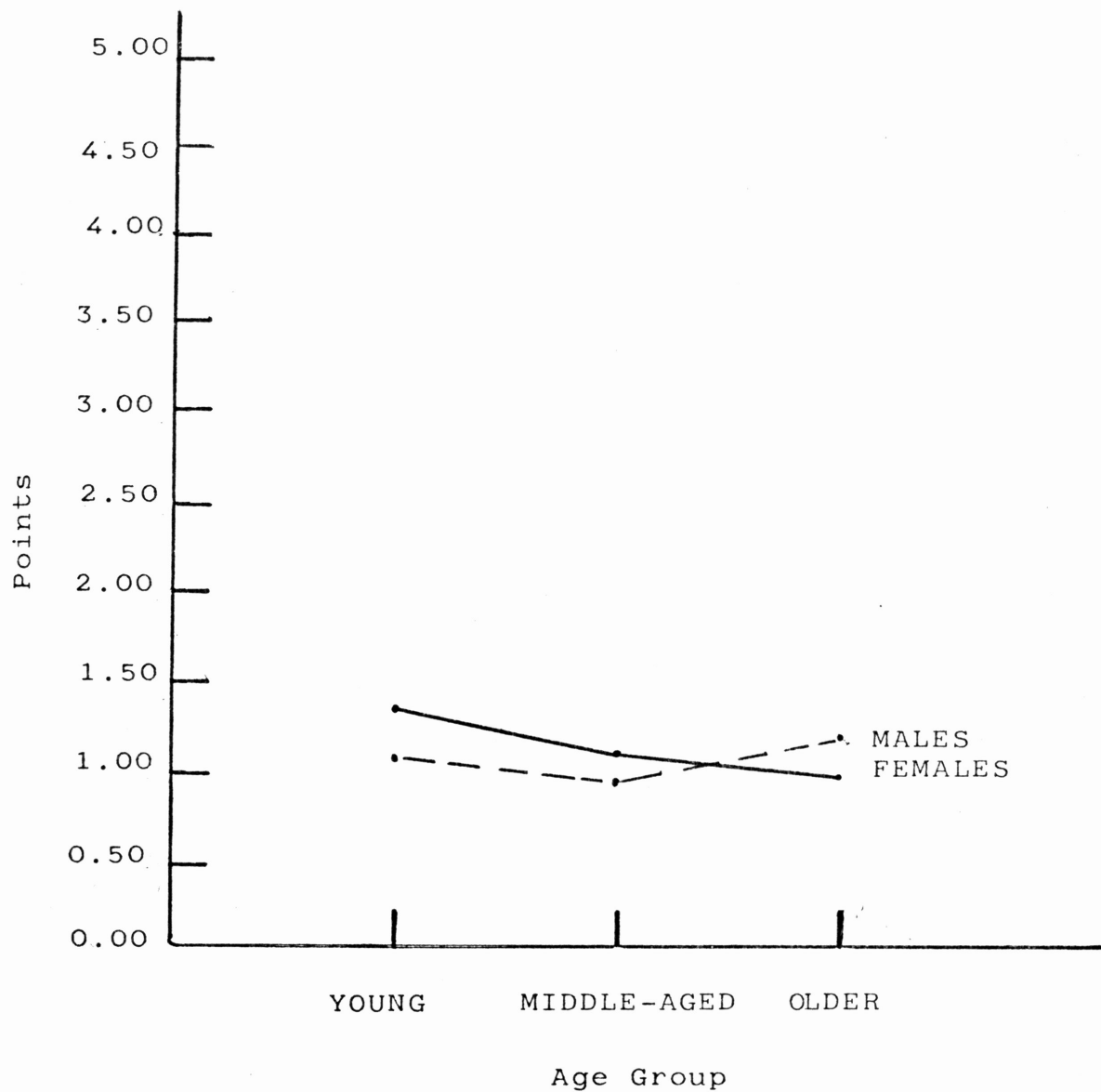
Figure 6. Sex x age group interaction in response to attitude statement 21: "If older people are better educated in their youth, later life will be personally more satisfying."
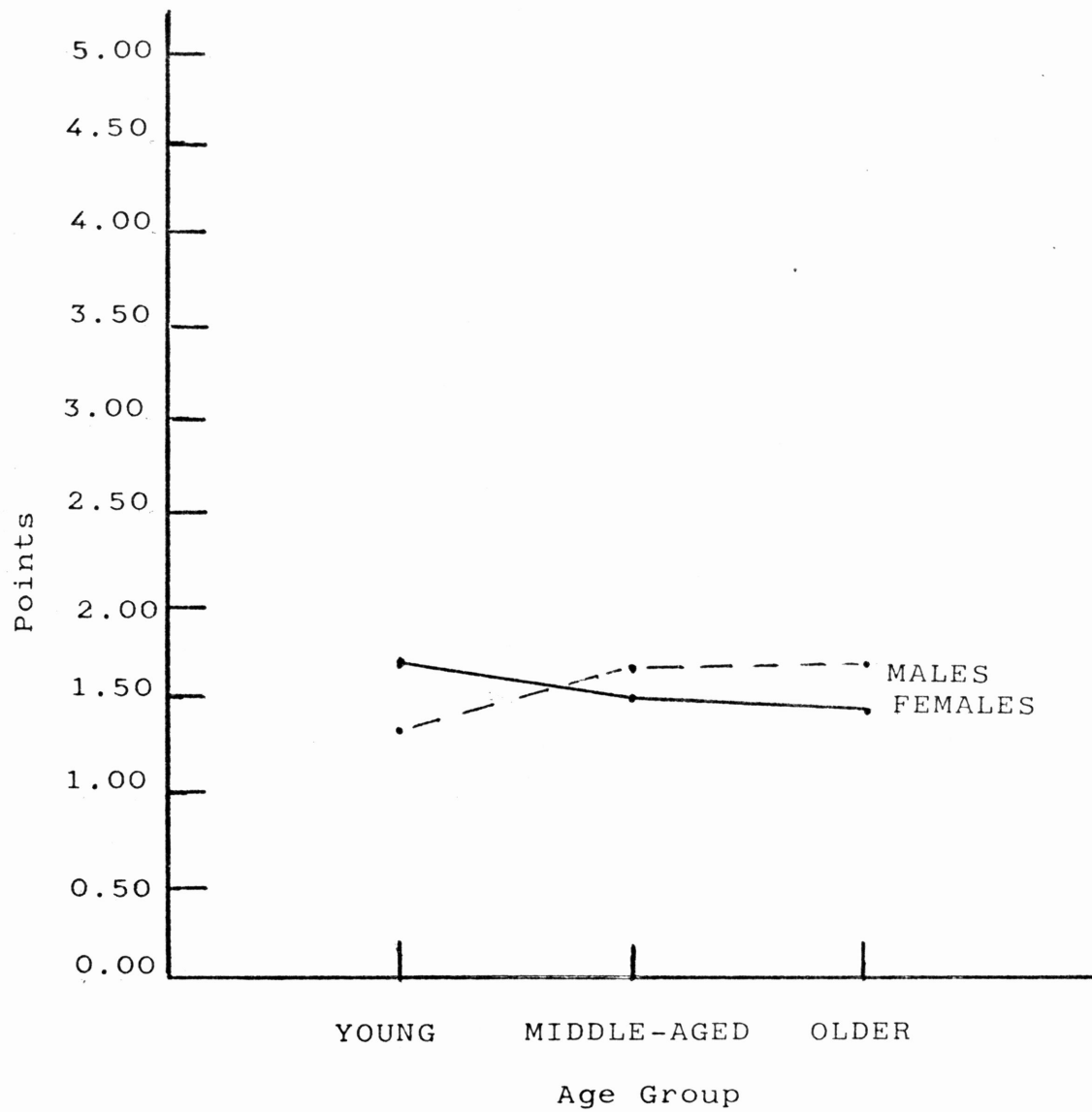
Figure 7. Sex x age group interaction in
response to attitude statement
22; "Old people are reluctant
to discuss death."

with age though these trends could reflect a co-
hort effect.

Attitude Manipulation: Knowledge of Aging.

(a) Pretest--In a 2(sex) x 2(experimental vs. con-
trol group) analysis of variance, no significant
main effects or interactions were found for the
total score on the first administration of the
facts quiz. The control group, however, scored
slightly better (males $\bar{X}$ = 14.3548, females $\bar{X}$ = 14.1538)
than the experimental group (males $\bar{X}$ = 14.9310,
females $\bar{X}$ = 13.5882). Significant group effects
were noted for statements 2 ("All five senses tend
to decline in old age") and 15 ("In general, most
old people are pretty much alike"). A greater
percentage of the experimental group responded
correctly to statement 2 than did the control group.
To statement 15, the control group responded cor-
rectly more often than did the experimental group.
Significant sex effects occurred in response to
statements 11 ("Most old people are set in their
ways and unable to change"), 14 ("The reaction
time of most old people tends to be slower than
reaction time of younger people") and 18 ("Older
workers have fewer accidents than younger workers")
in which a greater percentage of males in each

group answered correctly as compared to females. Finally, interactions of sex and group were found for statements 5 ("The majority of old people feel miserable most of the time"), 6 ("Physical strength tends to decline in old age") and 15 ("In general, most old people are pretty much alike") and are pictured in Figures 8, 9, and 10.

(b) Posttest--A significant sex effect was found in a 2(sex) x 2(experimental vs. control group) analysis of variance for the total score on the facts quiz posttest. Males of both groups scored higher on the posttest quiz (experimental males $\bar{X} = 15.7241$, control males $\bar{X} = 15.5161$) than females (experimental females $\bar{X} = 13.2353$, control females $\bar{X} = 14.5769$). A significant group effect occurred in the analysis of statement 23 ("Older people tend to become more religious as they age") where nearly twice as many people in the control group responded correctly to the statement as did people in the experimental group. There had been no group differences on the pretest. Sex effects were significant in the analysis of statements 8 ("Aged drivers have fewer accidents per person than drivers under age 65") and 14
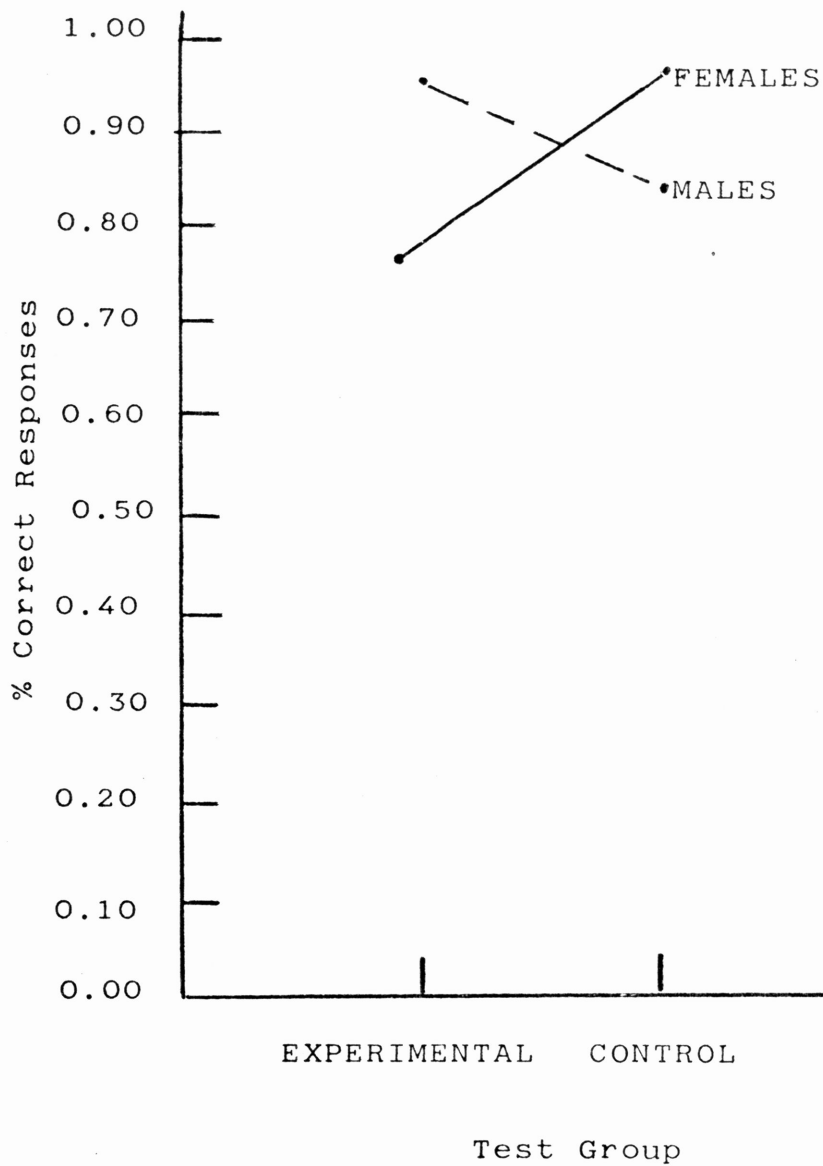
Figure 8. Sex x group interaction in
response to facts quiz
statement 5: "The majority
of old people feel miser-
able most of the time."
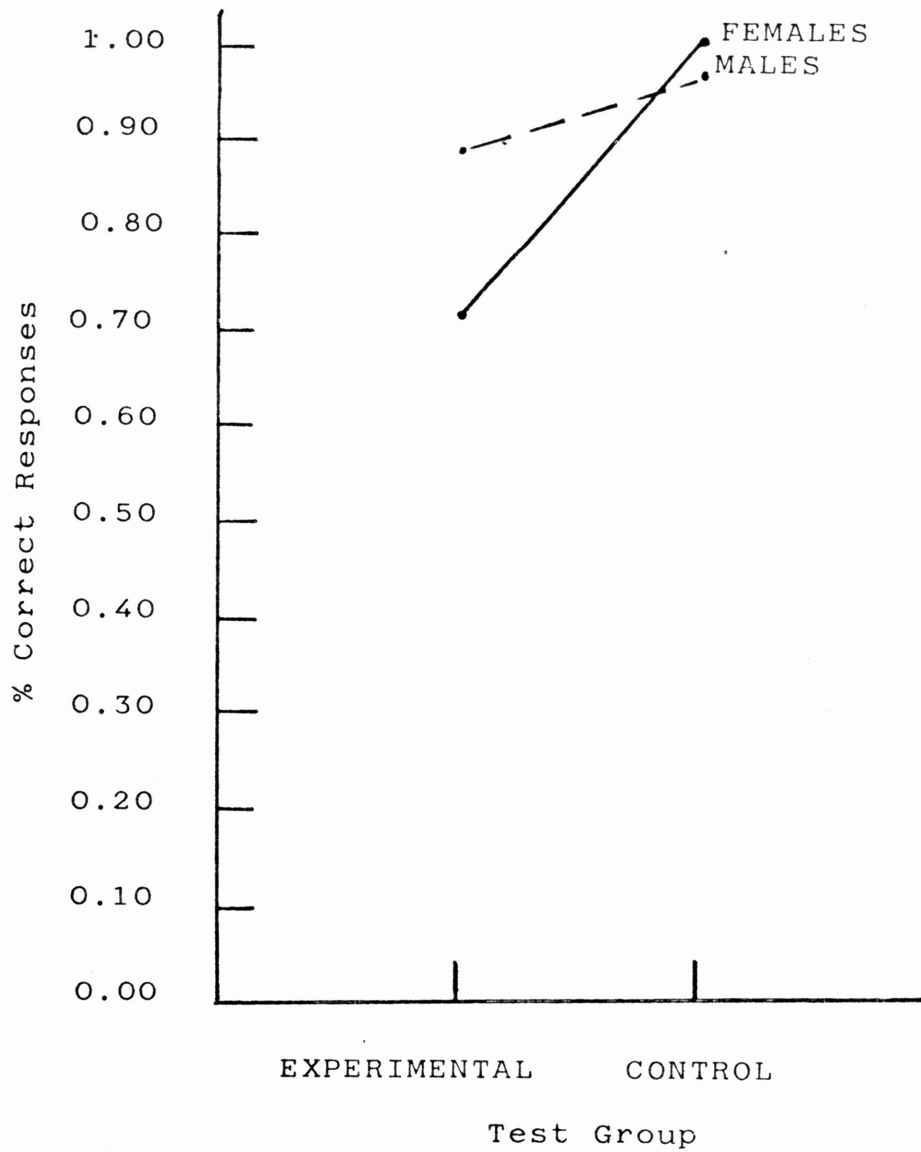
Figure 9. Sex x group interaction in
            response to facts quiz
            statement 6: "Physical
            strenth tends to decline
            in old age."
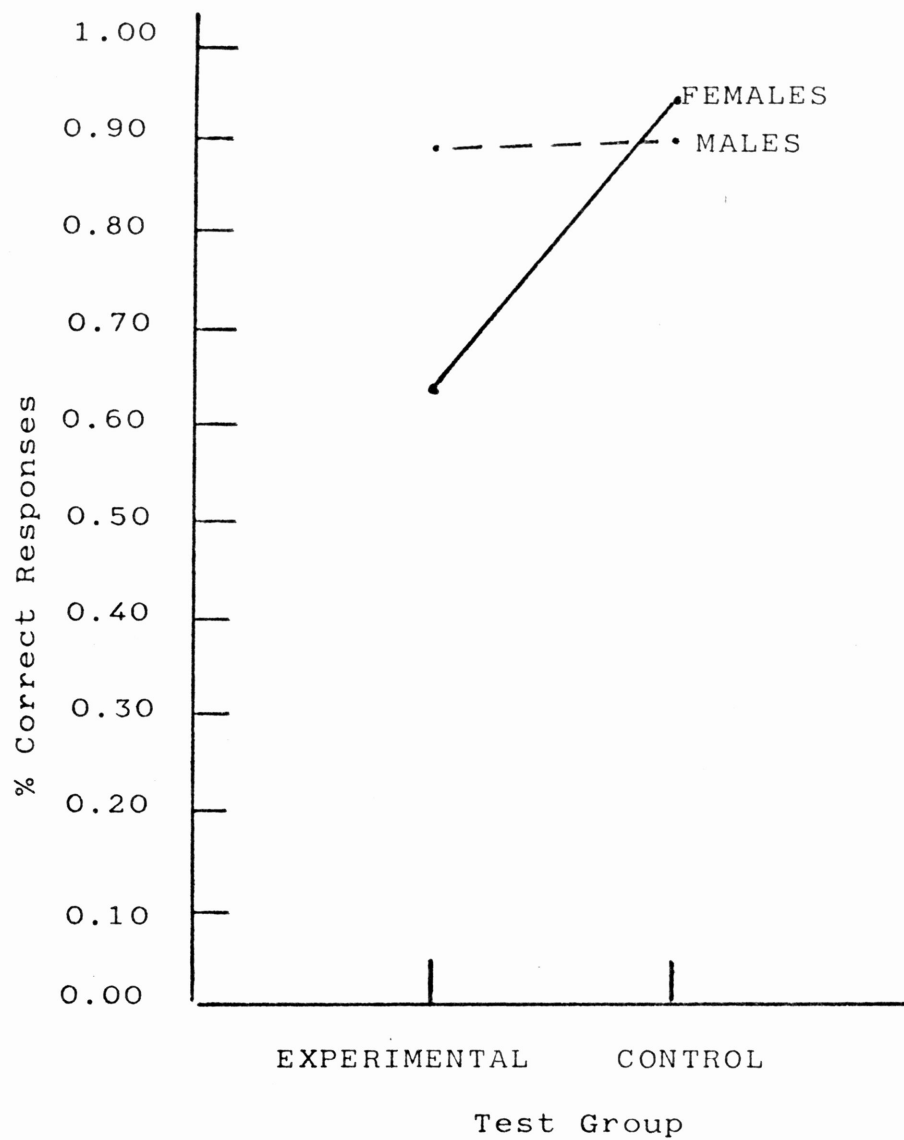
Figure 10. Sex x group interaction in response to facts quiz statement 15; "In general, most old people are pretty much alike."

("The reaction time of most old people tends to be
slower than the reaction time of younger people")
with males responding correctly the most often.
This had been true in the pretest for statement 14
but not for statement 8. Interactions of sex
and group are apparent in the analysis of
statements 6("Physical strength tends to decline
in old age") and 16 ("The majority of old people
are seldom bored")(Figures 11 and 12). It is
interesting to note that the sex x group interaction
was significant for statement 6 on the pretest
as well as on the posttest, but that the relative
standing of each sex is reversed from the pre-
to posttest. While control females were superior
to males and experimental females were inferior
to males on the pretest, it was the control males
who were superior to females and experimental males
who were inferior to females on the posttest.

Attitude Manipulation: Attitude Inventory.
(a) Pretest--Although there were no significant
differences, the total score on the attitude
inventory was highest for the experimental males
($\bar{X} = 95.7241$), lowest for experimental females
($\bar{X} = 89.8235$). Control males scored about two
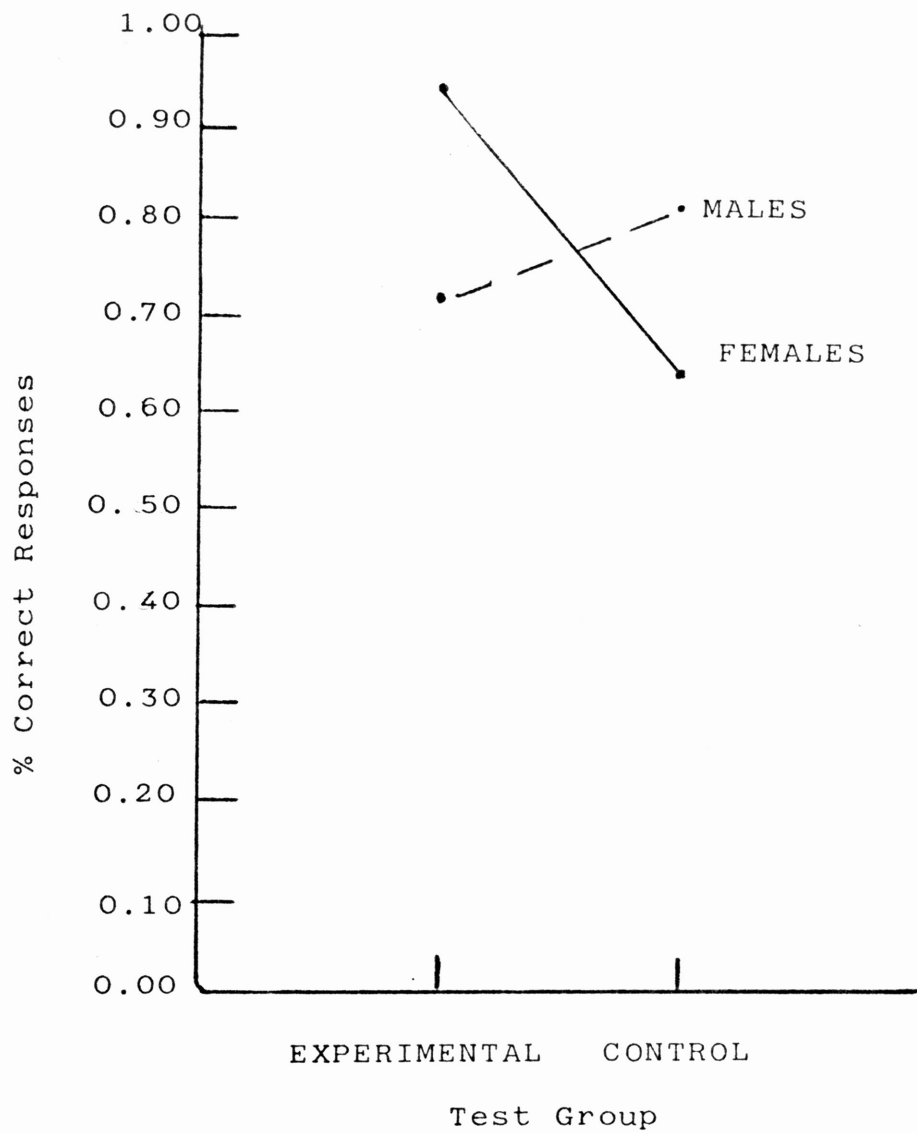
Figure 11. Sex x group interaction in response to facts quiz statement 6. "Physical strength tends to decline in old age."
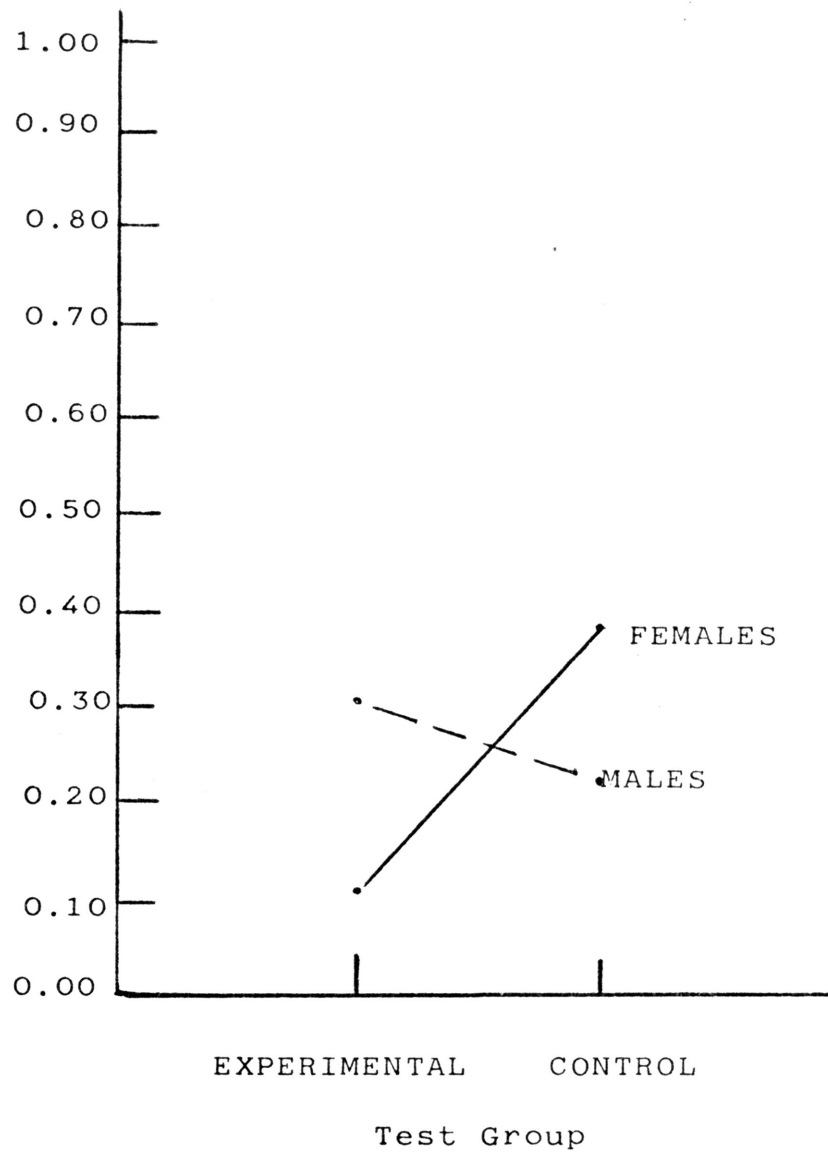
Figure 12. Sex x group interaction in response to facts quiz statement 16: "The majority of old people are seldom bored."

points below the experimental males ($\bar{X}$ = 93.6452)
while control females nearly equalled the experi-
mental males ($\bar{X}$ = 95.6154). Only two attitude
inventory statements had any associated significant
main effects. A 2(sex) x 2(experimental vs. control
group) analysis of variance for statements 26 ("As
people grow older, their thinking becomes less
flexible and they are less willing to contemplate
new ideas") and 29 ("Physical limitations imposed
by aging (i.e., being bedridden or no longer
being able to climb stairs) are a source of
frustration and discouragement in older people")
revealed significant sex effects with males more
positive about statements 26 and 29 than females.
No group effect or sex x group interactions were
found in analysis of pretest responses.

(b) Posttest-- A significant sex and group
interaction in a 2(sex) x 2(experimental vs.
control group) analysis of variance of the attitude
inventory total score was found. Control females
($\bar{X}$ = 97.6923) and experimental males ($\bar{X}$ = 95.0345)
were the most positive toward aging. Figure 13
illustrates this interaction for the posttest
scores, and includes the pretest data as well for
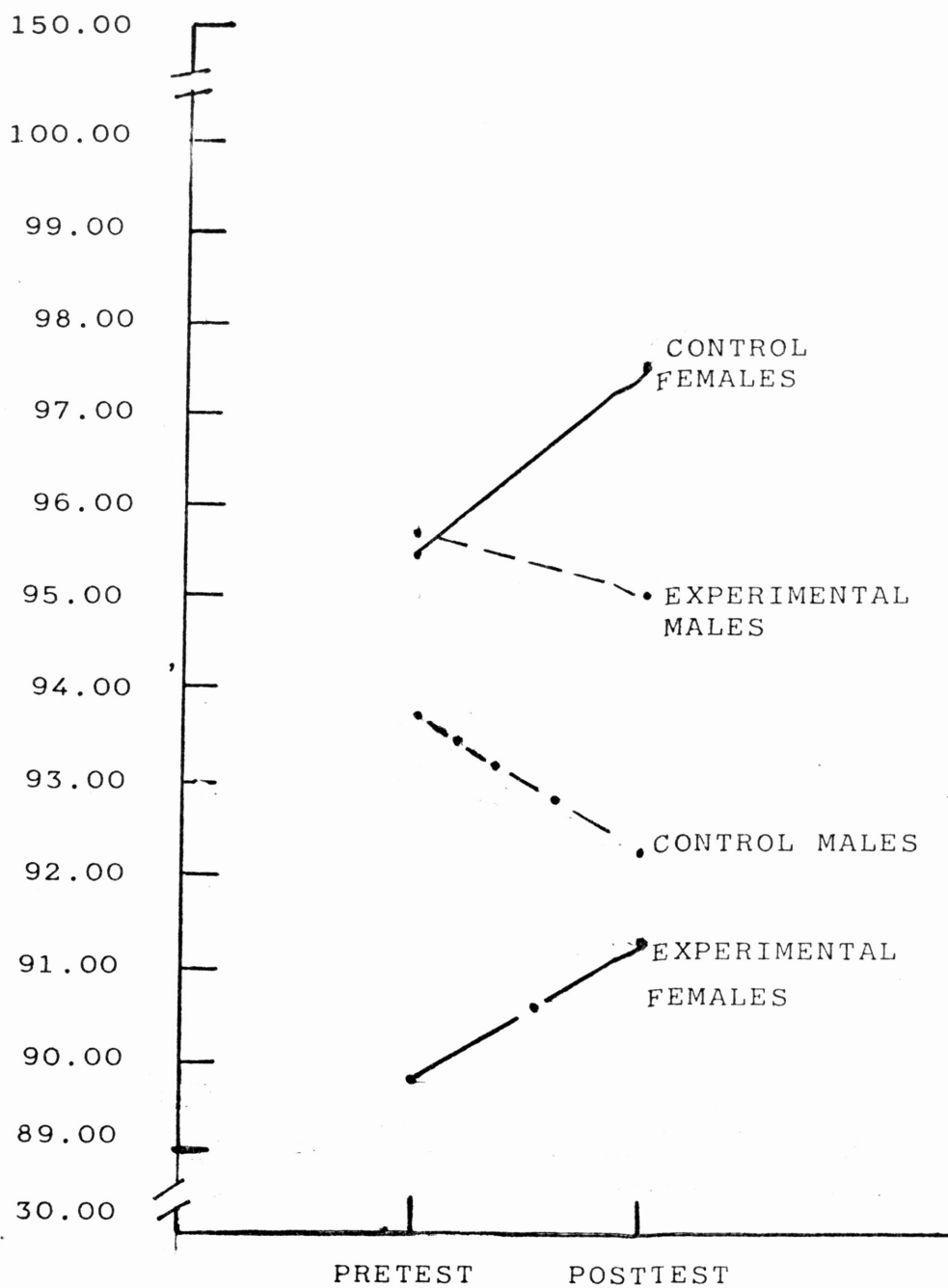
Figure 13.   Attitude Inventory Total
Scores Pre-and Posttest
for Experimental and
Control Groups

comparison. It is interesting to note that while the females in both groups had lower scores on the first testing than on the second (indicating a slight positive valuation of old age), the males both groups had lower scores on the second testing. The significant sex x group interaction appears to be due to the fact that while control group males and females were relatively similar on the posttest, there was a fairly large sex dif-ference for the experimental group. It seems possible that the film manipulation was somewhat effective for females, but that its impact on males was in a direction opposite to what had been intended.

The main effect of group occurred in the analysis of variance for statements 2 ("As people grow older, a reliance on glasses, canes, walkers special diets, medicines, etc. is to be expected"), 7, ("The knowledge that death is approaching with each passing year makes the old feel more insecure"), 8, ("The ability of the older person to get out and do new things is impaired by his/her dependence on others for transportation"), 10 ("As people grow older, they become distressed at the loss of their youthful appearance") and 17 ("If one is old

and pessimistic, it is only because he/she was
pessimistic in youth"). In all of these statements,
the control group was found to be slightly more
positive than the experimental group. Interactions
for sex x group occurred in the analysis of state-
ments 8 ("The ability of the older person to
get out and do new things is impaired by his/her
dependence on others for transportation"), 14 ("Most
old people have only enough money to purchase the
necessities for living"), 17 ("If one is old and
perssimistic, it is only because he/she was pessim-
istic in youth") and 28 ("A person's temperament
is not determined by age alone") as illustrated
in Figures 14, 15, 16, and 17.

The Ten Factors Hypothesized as Devaluators
of Old Age. Correlations between facts quiz state-
ments and attitude inventory statements used to
measure each factor are listed for each age group
in Tables 3, 4, and 5. Attitude statement
grouping mean scores for each group are given in
Table 6.

Attitude grouping mean scores did not vary
among groups of different ages. Mean scores fell
in the middle of the range of one to five points
generally, indicating a neutral to slightly positive
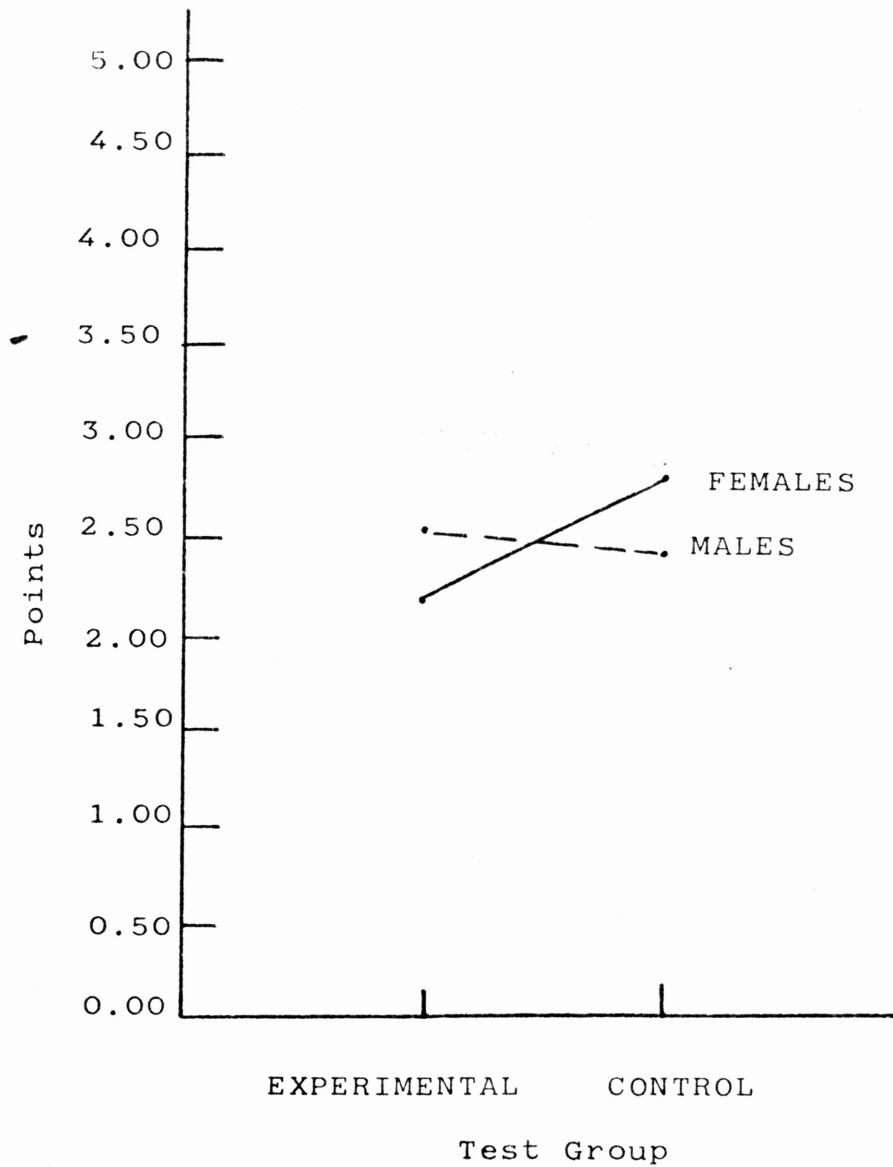
Figure 14.   Sex x group interaction in
response to attitude state-
ment 8:   "The ability of the
older person to get out and
do new things is impaired by
his/her dependence on others
for transportation."
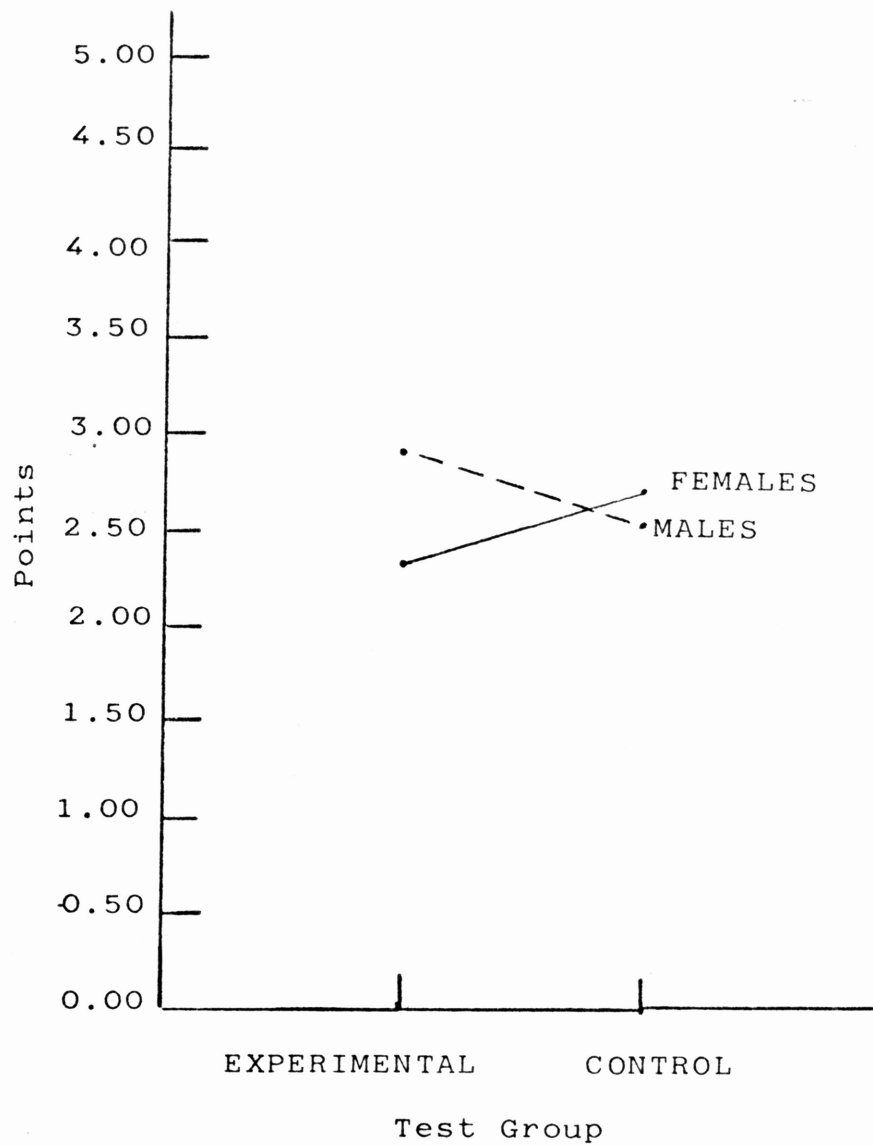
Figure 15. Sex x group interaction in response to attitude statement 14: "Most old people have only enough money to purchase the necessities for living."
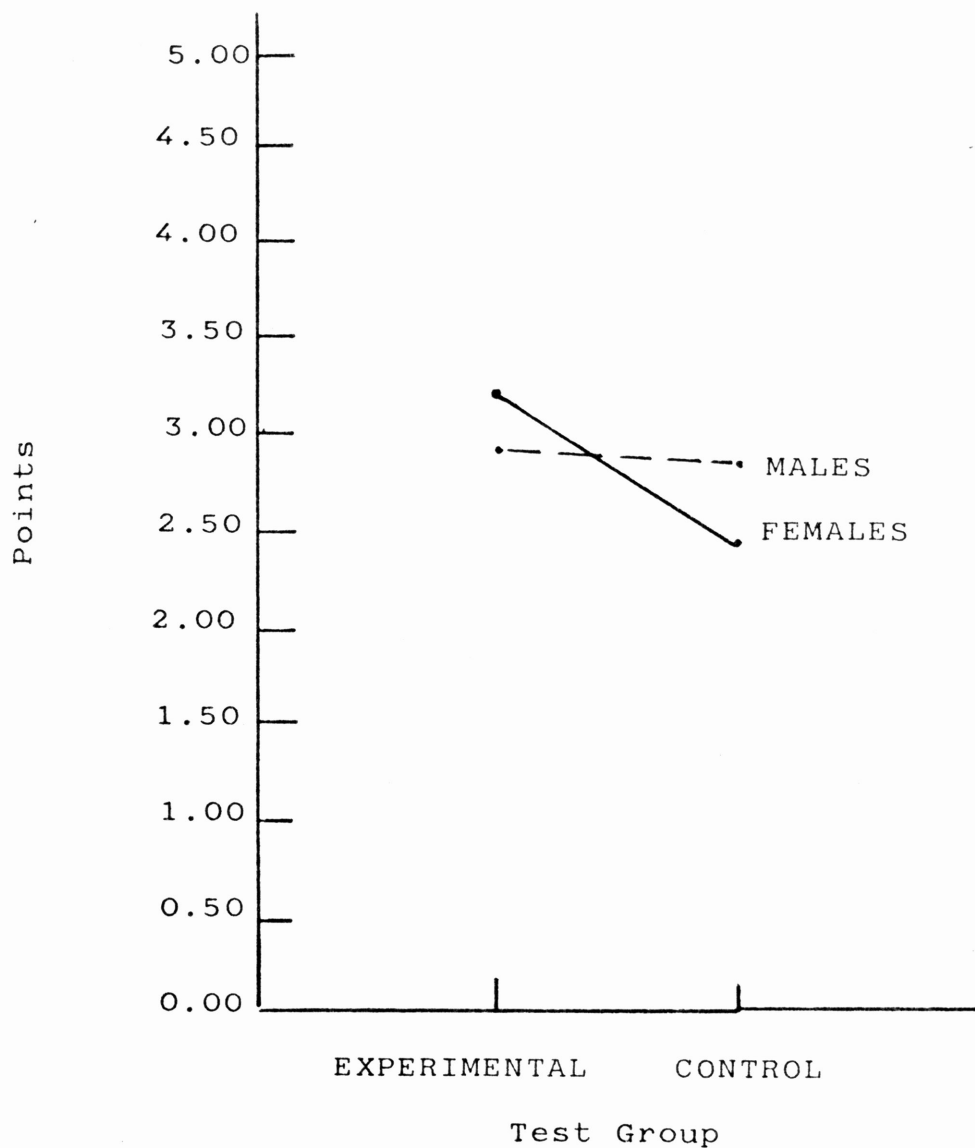
Figure 16. Sex x group interaction in response to attitude statement 17: "If one is old and pessimistic, it is only because he/she was pessimistic in youth."
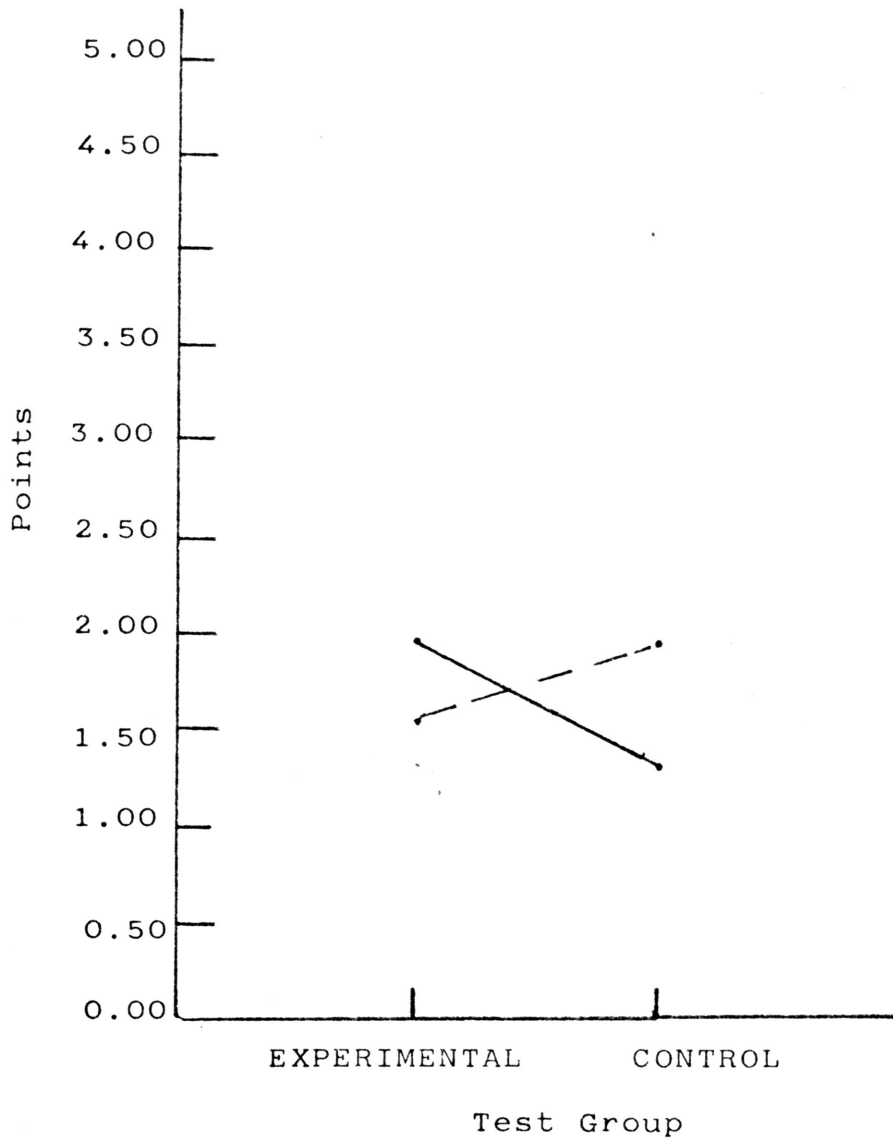
Figure 17. Sex x group interaction in response to attitude statement 28: "A person's temperament is not determined by age alone."

attitude toward the statement grouping or set.

Significant negative correlations between facts knowledge and attitude inventory statement sets were found in the college female sample for the concepts of low socioeconomic status, poor health and rigidity. This indicates that female students who had more accurate information about the socioeconomic status, health, and rigidity of older people were less likely to devalue old age. However, for college females there was a significant positive correlation between the total facts quiz score and the total attitude inventory score seeming to indicate that paradoxically students with more accurate information overall were more likely to devalue aging. Total facts quiz score and total attitude score was also significantly correlated in the male college age sample, but in this sample no other significant positive or negative correlations were found between facts quiz statements and attitude inventory statements that were trying to tap devaluating factors.

In the middle-aged group, females' responses to facts quiz statements and attitude inventory statements which tried to tap the concepts of social isolation and loss of thinking ability showed

Table 3

Correlations Between Facts Knowledge and Attitude

Inventory Variables in Young College Adults

===

Correlational Relationships	College Males N = 464	College Females N = 346
Total Facts Quiz score and Total Attitude Inventory score	.315*	.477*
Total Facts Quiz score and age	−.012	.874*
Total Attitude Inventory score and age	−.227*	−.226*
Amount of contact with old people and Total Facts Quiz score	.027	.002
Amount of contact with old people and Total Attitude Inventory score	.134*	−.011
Factors		
1) Low socioeconomic status	−.155	−.445*
2) Poor Health	−.073	−.324*
3) Social Isolation	−.130	−.188
4) Low Education Level	−.017	−.150
5) Loss of Youthful Appearance	---	---
6) Unpleasant Temperament	−.160	−.009
7) Rigidity	−.144	−.345*
8) Loss of Independence	−.007	−.254
9) Loss of Thinking Ability	−.087	−.166
10) Nearness to Death	.063	−.087

*p   .0001

significant negative and positive correlation respectively. That is, those who were better aware that the elderly are not overly isolated were less likely to devalue old age, while surprisingly those who know that thinking skills slow down somewhat but also that learning is still common among the elderly apparently tended to devalue old age more. There was a negative but non-significant correlation between the total facts quiz score and attitude inventory score in the middle-aged female group, contrary to the positive correlation found in the college aged female goup. No correlations were significant for middle-aged males.

In older adult males, significant positive correlations for responses to facts quiz statements and attitude inventory statements tapping the factors of loss of thinking ability and nearness of death were found. That is, those who had more accurate infromation about changes in thinking and learning and those who were concerned with impending death were most likely to devalue old age. These were the only significant correlations found in th older age group. There was a slight negative but non-significant correlation between total attitude

Table 4

Correlations Between Facts Knowledge and Attitude

Inventory Variables in Middle-Aged Adults

==

Correlational Relationships	Middle-Aged Males N = 16	Middle-Aged Females N = 35
Total Facts Quiz score and Total Attitude Inventory score	−.447	−.381
Total Facts Quiz score and age	.295	.000
Total Attitude Inventory score and age	.580*	.000
Amount of contact with old people and Total Facts Quiz score	.017	.056
Amount of contact with old people and Total Attitude Inventory score	.180	−.161
Factors		
1) Low socioeconomic status	.020	−.083
2) Poor Health	.286	−.106
3) Social Isolation	−.183	−.450*
4) Low Education Level	.171	−.283
5) Loss of Youthful Appearance	---	---
6) Unpleasant Temperament	−.160	.060
7) Rigidity	.198	−.273
8) Loss of Independence	−.100	−.168
9) Loss of Thinking Ability	−.116	.338*
10) Nearness to Death	−.173	.331

*p .05

Table 5

Correlations Between Facts Knowledge and Attitude

Inventory Variables in Older Adults

==

Correlational Relationships	Older Males N = 27	Older Females N = 31
Total Facts Quiz score and Total Attitude Inventory score	-.164	-.150
Total Facts Quiz score and age	-.152	-.185
Total Attitude Inventory score and age	.045	.034
Amount of contact with old people and Total Facts Quiz score	.180	.040
Amount of contact with old people and Total Attitude Inventory score	.102	.172
Factors		
1) Low socioeconomic status	-.025	-.068
2) Poor Health	.224	-.233
3) Social Isolation	.085	-.215
4) Low Education Level	.008	.033
5) Loss of Youthful Appearance	---	---
6) Unpleasant Temperament	.109	-.181
7) Rigidity	-.162	-.360
8) Loss of Independence	.070	-.100
9) Loss of Thinking Ability	.554**	-.002
10) Nearness to Death	.511**	-.013

**p   .01

TABLE 6

Attitude Grouping Mean Scores

(Scale 1-5)

Factors	Old		Middle-Aged		Young	
	M	F	M	F	M	F
Low Socioeconomic Status	3.14	3.32	3.38	3.52	3.22	3.26
Poor Health	3.30	3.30	3.18	3.34	3.16	3.20
Social Isolation	2.60	2.70	2.60	2.70	2.5	2.5
Low Education Level	3.15	3.00	3.20	4.60	3.38	3.33
Loss of Youthful Appearance	- -	- -	- -	- -	- -	- -
Unpleasant Temperament	2.10	2.00	2.11	2.28	2.25	2.22
Rigidity	2.65	2.80	2.80	2.90	2.70	2.70
Loss of Independence	3.13	3.30	3.20	3.20	3.13	3.16
Loss of Thinking Ability	2.63	2.73	2.96	2.83	2.73	2.63
Nearness to Death	3.13	3.30	3.20	3.20	3.13	3.16

inventory and total facts quiz score in this age group.

DISCUSSION

Overall, the study failed to find the signif-
cant attitude differences between age groups
that Collette-Pratt found in her study. The age
groups' attitudes toward old age as reflected
by total attitude inventory scores were neutral
to weakly positive. There appeared to be no
strong negative feeling toward old age, but
neither was there strong positive feeling among
age groups according to total mean attitude
inventory scores among groups. As predicted,
young persons knew less about aging that the
middle-aged and older adults, but it did not
seem that ignorance about aging made the young
devalue or value it more. Perhaps it is the
case that knowledge about aging has little effect
on one's attitude toward it, except possibly among
the younger female groups of the study (for whom
there was a significant positive correlation between
the facts quiz score and attitude). Too, a score
of better than fifty percent correct on the facts
quiz could be reflective of the "test-wise" guessing
that some subjects, (particularly college age) who
had little knowledge about aging, did and thus

knowledge of aging may have had little to do with attitudes of these subjects.

A failure to find factors of devaluation consistently among all groups may be due to the construction of the attitude inventory. The statements in the inventory may be tapping more than one factor at a time, confounding a correlation between items of the Palmore quiz and inventory statements. Perhaps too, the method of identifying factors through correlation is not comparable to Collette-Pratt's semantic differential technique in which she had only ten measures of devaluation made up of seven response alternatives compared with the present 30 item format and five response alternatives. Differences in outcome might simply reflect geographical sampling differences (her study was conducted in Oregon, compared with the present sample in Texas); on factors other than geography, samples appeared to fairly similar in both studies.

In the attitude manipulation portion of the study, the experimental group subjects did not change in an easily explainable fashion after viewing the film. While males, overall, became somewhat more negative, females became slightly

more positive. Before explaining this discrepant
sex effect, it is important to note that the amount
of change was not objectively large for either
sex, and that there were also control group changes
in the same direction between pretest and posttest.
This last finding suggests that much of the inter-
action might be differential responding by the
sexes over time rather than in response to the film
manipulation itself. Although it is therefore
uncertain that the present film had any effect, it
may be that viewing a larger number of positive
films over a longer period of time or that having
actual contact with an older person in the experi-
mental setting, could significantly change attitude
score. Attitudes have been shown in social psycho-
logical studies to be susceptible to change, but
changing them may require more than just a one-time
viewing of a film which the experimenter rated as
presenting aging positively.

As previously stated, there was a significant
sex x group interaction among the subjects of the
attitude manipulation study, with males of the ex-
perimental and control groups becoming more
negative in attitude on the posttest. If this is,
in fact, a genuine sex difference in response to

some aspect of the experimental situation (rather than to the passage of time or to test-retest change susceptibility regardless of film), it may be due to one of the following. First, the experimenter was female. This may have elicited greater resistance from the males and greater cooperation from the females. Second, there may be sex differences in susceptibility to attitude manipulation (regardless of the sex of the experimenter), with males less easily influenced in this area. And third, perhaps specific sex-role depictions included in the experimental film elicited the differential response from male and female college students. It may be that Arthur, the old male figure, was presented in a more positive way than Lillie who did not conform at all to the stereotypic "sweet little old lady" image, but rather nagged at Arthur a little and was very outspoken. Each of these factors should be systematically varied in future research to determine whether they have an impact on the outcome of attitude manipulation attempts.

APPENDIX A

DATA SHEET

ID No. _____

Sex: M   F

Age: _____

The following questions are for research purposes only and your response will be kept in strict confidentiality.

You may answer any or all of the questions or may omit them entirely.

1. Ethnicity (please check):

☐ Anglo

☐ Black

☐ Mexican American

☐ Other (Please state)_____

2. How much contact have you had with people whom you consider old? (If you are older than 55, answer this question with respect to the amount of contact you had with people whom you considered old before age 55.)

☐ No contact

☐ Rare visits with older relatives or friends

☐ Occasional visits with older relatives or friends

☐ Frequent visits with older relatives or friends

☐ I have lived with or taken care of an older relative or friend

☐ I have done volunteer or paid work in which I have had contact with older persons (i.e., work in a nursing home, public health, nursing, social work, etc.)

3. During the years in which you had the highest earnings what was your approximate income?

☐ $5,000 per year or less

☐ $6-10,000 per year

☐ $25-20,000 per year

☐ Greater than $20,000

4. How does your current income compare with income you had during your highest earning years?

☐ My present income is <u>markedly improved</u> over that of my highest earning years.

☐ My present income is <u>somewhat improved</u> over that of my highest earning years.

☐ My present income is the <u>same as</u> that of my highest earning years.

☐ My present income is <u>somewhat less than</u> that of my highest earning years.

☐ My present income is <u>markedly decreased from</u> that of my highest earning years.

A written report of this study will be available in May and may be received upon request.

FACTS ON AGING

A Short Quiz by Erdman Palmore, Ph.D.

Circle "T" for True, or "F" for False.

T   F   1.   The majority of old people (past age 65) are senile (i.e., defective memory, disoriented, or demented).

T   F   2.   All five senses tend to decline in old age.

T   F   3.   Most old people have no interest in, or capacity for, sexual relations.

T   F   4.   Lung capacity tends to decline in old age.

T   F   5.   The majority of old people feel miserable most of the time.

T   F   6.   Physical strength tends to decline in old age.

T   F   7.   At least one-tenth of the aged are living in long-stay institutions (i.e., nursing homes, mental hospitals, homes for the aged, etc.).

T   F   8.   Aged drivers have fewer accidents per person than drivers under age 65.

T   F   9.   Most older workers cannot work as effectively as younger workers.

T   F   10.   About 80% of the aged are healthy enough to carry out their normal activities.

T   F   11.   Most old people are set in their ways and unable to change.

T   F   12.   Old people usually take longer to learn something new.

T   F   13.   It is almost impossible for most old people to learn new things.

T   F   14.   The reaction time of most old people tends to be slower than reaction time of younger people.

T   F   15.   In general, most old people are pretty much alike.

T   F   16.   The majority of old people are seldom bored.

T   F   17.   The majority of old people are socially isolated and lonely.

T   F   18.   Older workers have fewer accidents than younger workers.

T   F   19.   Over 15% of the U.S. population are now age 65 or over.

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

T   F   21.   The majority of older people have incomes below the poverty level (as defined by the Federal Government).

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

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

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

T   F   25.   The health and socioeconomic status of older people (compared to younger people) in the year 2000 will probably be about the same as now.

Please respond to the following statements by marking in the blank.
The number 1 if you believe the statement to be true all of the time.
The number 2 if you believe the statement to be true most of the time.
The number 3 if you believe the statement to be true some of the time.
The number 4 if you believe the statement to be true very seldom.
The number 5 if you believe the statement to be true none of the time.

_____ 1. Old people are unable to live in the same socioeconomic level of their middle-aged years.

_____ 2. As people grow older, a reliance on glasses, canes, walkers, special diets, medicines, etc. is to be expected.

_____ 3. Old people prefer to live quietly, seldom associating with others younger or older than themselves.

_____ 4. I am comfortable when discussing death.

_____ 5. The low education level of old people increased their frustration and boredom.

_____ 6. As one ages, he/she become more impatient, stubborn and grouchy.

_____ 7. The knowledge that death is approaching with each passing year makes the old feel more insecure.

_____ 8. The ability of the older person to get out and do new things is impaired by his/her dependence on others for transportation.

_____ 9. The ability to manipulate numbers (addition, subtraction, multiplication and division) decreases with age.

_____ 10. As people grow older, they become distressed at the loss of their youthful appearance.

_____ 11. Old people maintain as active a membership in socil or church organizations as they did in previous years.

_____ 12. There are a lot of individual differences in older people's temperaments.

_____ 13. The older person resents a loss of the economic or physical independence he enjoyed at an earlier time.

_____ 14. Most old people have only enough money to purchase the necessities for living.

_____ 15. As one ages, he/she realizes that there is still much to learn.

_____ 16. Chronic illness is to be expected as one ages.

_____ 17. If one is old and pessimistic, it is only because he/she was pessimistic in youth.

_____ 18. Too much excitement and noise when friends, relatives, and children visit bothers most old people.

_____ 19. Most old people do not seek out knowledge of current events or new ideas.

_____ 20. The old typically are complainers.

_____ 21. If older people are better educated in their youth, later life will be personally more satisfying.

_____ 22. Old people are reluctant to discuss death.

_____ 23. Living in a nursing home or with relatives significantly reduces the activities which the old may choose to engage in.

_____ 24. As one grows older, his/her IQ scores decline.

_____ 25. Old people can afford luxury purchases.

_____ 26. As people grow older, their thinking becomes less flexible and they are less willing to contemplate new ideas.

_____ 27. Old people may be mildly depressed because of the economic limitations that aging sometimes imposes.

_____ 28. A person's temperament is not determined by age alone.

_____ 29, Physical limitations imposed by aging (i.e., being bedridden or no longer being able to climb stairs) are a source of frustration and discouragement in older people.

_____ 30. Old people are too often lumped in a class together when in fact they are just more mature individuals.

.

APPENDIX B

Table 1

Analysis of Variance

Amount of Contact with Old People Reported by

Young, Middle-Aged and Older Adults

===

Source	d.f.	Mean Square	F Ratio
Between Subjects	5	8.031	
Age Group (A)	2	15.087	10.1489***
Sex (B)	1	8.770	5.8996*
AB	2	0.607	0.4080
Error	173	1.487	

*p < .05

***p < .001

Table 2

Analysis of Variance

Response to Facts Quiz Statement 2^1 by Young,

Middle-Aged and Older Adults

==

Source	d.f.	Mean Square	F Ratio
Between Subjects	5	0.711	
Group (A)	2	0.768	2.7894
Sex (B)	1	0.035	0.1278
AB	2	0.992	3.6121*
Error	173	0.275	

*p < .05

[1]Statement 2: "All five senses tend to decline in old age."

Table 3

Analysis of Variance

Response to Facts Quiz Statement 7[1] by Young,

Middle-Aged and Older Adults

Source	d.f.	Mean Square	F Ratio
Between Subjects	5	0.346	
Group (A)	2	0.704	3.2626*
Sex (B)	1	0.252	1.1661
AB	2	0.034	0.1566
Error	173	0.216	

*p < .05

[1] Statement 7: "At least one-tenth of the aged are living in long stay institutions (i.e., nursing homes, mental hospitals, homes for the aged, etc.)"

Table 4

Analysis of Variance

Response to Facts Quiz Statement 10^1 by Young,

Middle-Aged, Older Adults

===

Source	d.f.	Mean Square	F Ratio
Between Subjects	5	0.219	
Group (A)	2	0.132	1.0040
Sex (B)	1	0.011	0.0850
AB	2	0.408	3.0516 *
Error	173	0.134	

*p < .05

[1]Statement 10: "About 80% of the aged are healthy enough to carry out their normal activities."

Table 5

Analysis of Variance

Response to Facts Quiz Statement 11[1] by Young,

Middle-Aged and Older Adults

Source	d.f.	Mean Square	F Ratio
Between Subjects	5	0.760	
Group (A)	2	1.231	5.2576**
Sex (B)	1	0.336	1.4363
AB	2	0.502	2.1427
Error	173	0.234	

**$p < .01$

[1]Statement 11: "Most old people are set in their ways and unable to change."

Table 6

Analysis of Variance

Response to Facts Quiz Statement 16[1] by Young

Middle-Aged and Older Adults

==

Source	d.f.	Mean Square	F Ratio
Between Subjects	5	0.480	
Group (A)	2	1.181	5.0459**
Sex (B)	1	0.001	0.0033
AB	2	0.018	0.0788
Error	173	0.234	

**p $<$ .01

[1]Statement 16: "The majority of old people are seldom bored."

Table 7

Analysis of Variance

Response to Facts Quiz Statement 17[1] by Young,

Middle-Aged and Older Adult

===

Source	d.f.	Mean Square	F Ratio
Between Subjects	5	0.791	
Group (A)	2	1.422	6.2739*
Sex (B)	1	1.109	4.8931**
AB	2	0.002	0.0088
Error	173	0.227	

*p < .05

**p < .01

[1]Statement 17: "The majority of old people are socially isolated and lonely."

Table 8

Analysis of Variance

Response to Facts Quiz Statement 21[1] by Young,

Middle-Aged and Older Adults

Source	d.f.	Mean Square	F Ratio
Between Subjects	5	0.698	
Group (A)	2	0.134	0.6247
Sex (B)	1	2.289	10.6855**
AB	2	0.468	2.1851
Error	173	0.214	

**$p < .01$

[1]Statement 21: "The majority of older people have incomes below the poverty level (as defined by the Federal Government)."

Table 9

Analysis of Variance

Response to Facts Quiz Statement 23[1] by Young,

Middle-Aged and Older Adults

==

Source	d.f.	Mean Square	F Ratio
Between Subjects	5	0.564	
Group (A)	2	0.805	4.2666*
Sex (B)	1	0.185	0.9835
AB	2	0.513	2.7208
Error	173		

*p $<$ .05

[1] Statement 23: "Old people tend to become religious as they age."

Table 10

Analysis of Variance

Response to Facts Quiz Statement 24[1] by Young,

Middle-Aged and Older Adults

==

Source	d.f.	Mean Square	F Ratio
Between Subjects	5	0.753	
Group (A)	2	1.187	5.6148**
Sex (B)	1	0.003	0.0124
AB	2	0.695	3.2853*
Error	173	0.211	

*p < .05

**p < .01

[1]Statement 24: "The majority of old people are seldom irritated or angry."

Table 11

Analysis of Variance

Response to Attitude Inventory Statement 1[1] by

Young, Middle-Aged and Older Adults

Source	d.f.	Mean Square	F Ratio
Between Subjects	5	1.984	
Group (A)	2	3.030	3.4195
Sex (B)	1	0.782	0.8827
AB	2	1.540	1.7379
Error	173	0.886	

*p $<$ .05

[1]Statement 1: "Old people are unable to live at the same socioeconomic level of their middle-aged years."

Table 12

Analysis of Variance

Response to Attitude Inventory Statement 7[1] by

Young, Middle-Aged and Older Adults

===

Source	d.f.	Mean Square	F Ratio
Between Subjects	5	2.211	
Group (A)	2	1.909	1.9090
Sex (B)	1	4.389	4.3896*
AB	2	1.432	1.4234
Error	173	1.000	

*p $<$ .05

[1]Statement 7: "The knowledge that death is approach-
ing with each passing year makes the
old feel more insecure."

Table 13

Analysis of Variance

Response to Attitude Inventory Statement 8[1] by

Young, Middle-Aged and Older Adults

==

Source	d.f.	Mean Score	F Ratio
Between Subjects	5	2.170	
Group (A)	1	1.351	2.2341
Sex (B)	2	1.966	3.2519
AB	1	3.091	5.1128
Error	173	0.605	

**p $<$ .01

[1]Statement 8:   "The ability of the older person to
get out and do new things is impaired
by his/her dependence on others for
transportation."

Table 14

Analysis of Variance

Response to Attitude Inventory Statement 12[1] by

Young, Middle-Aged and Older Adults

===

Source	d.f.	Mean Square	F Ratio
Between Subjects	5	2.114	2.7678
Group (A)	2	2.283	0.2347
Sex (B)	1	0.194	0.2347
AB	2	2.905	3.5211*
Error			

*p < .05

[1]Statement 12: "There are a lot of individual differences in older people's temperaments."

Table 15

Analysis of Variance

Response to Attitude Inventory Statement 14[1] by

Young, Middle-Aged and Older Adults

===

Source	d.f.	Mean Square	F Ratio
Between Subjects	5	1.040	
Group (A)	2	0.693	1.1472
Sex (B)	1	2.803	4.6383*
AB	2	0.505	0.8352
Error	173	0.604	

*p < .05

[1]Statement 14: "Most old people have only enough money to purchase the necessities for living."

Table 16

Analysis of Variance

Response to Attitude Inventory Statement 15[1] by

Young, Middle-Aged and Older Adults

Source	d.f.	Mean Square	F Ratio
Between Subjects	5	1.269	
Group (A)	2	2.765	4.2735*
Sex (B)	1	0.032	0.0494
AB	2	0.390	0.6026
Error	173	0.647	

*p < .05

[1]Statement 15:   "As one ages, he/she realizes that there is still much to learn."

Table 17

Analysis of Variance

Response to Attitude Inventory Statement 18[1] by

Young, Middle-Aged and Older Adults

==

Source	d.f.	Mean Square	F Ratio
Between Subjects	5	2.201	
Group (A)	2	3.395	3.9852*
Sex (B)	1	2.154	2.5280
AB	7	1.031	1.2104
Error	173	0.852	

*p < .05

[1]Statement 18: "Too much excitement and noise when friends, relatives, and children visit bothers most old people."

Table 18

Analysis of Variance

Response to Attitude Inventory Statement 21[1] by

Young, Middle-Aged and Older Adults

==

Source	d.f.	Mean Square	F Ratio
Between Subjects	5	2.427	
Group (A)	2	1.971	1.9626
Sex (B)	1	1.022	1.0178
AB	2	3.586	3.5695*
Error	173	1.004	

*p < .05

[1]Statement 21: "If Older people are better educated in their youth, later life will be personally more satisfying."

Table 19

Analysis of Variance

Response to Attitude Inventory Statement 22[1] by

Young, Middle-Aged and Older Adults

===

Source	d.f.	Mean Square	F Ratio
Between Subjects	5	2.026	
Group (A)	2	0.389	0.3567
Sex (B)	1	0.043	0.0398
AB	2	4.655	4.2690*
Error	173	1.090	

*$p < .05$

[1]Statement 22: "Old people are reluctant to discuss death."

APPENDIX C

Table 1

Analysis of Variance

Age of Experimental and Control Subjects

==

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	9.838	
Group (A)	1	0.018	0.0122
Sex (B)	1	28.929	19.7250***
AB	1	0.566	0.3856
Error	99	1.467	

***p = .0001

Table 2

Analysis of Variance

Amount of Contact with Old People Reported by

Experimental and Control Groups

==

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	5.084	
Group (A)	1	1.248	1.1097
Sex (B)	1	13.338	11.8562**
AB	1	0.665	0.5908
Error	99	1.125	

**p < .01

Table 3

Analysis of Variance

Pretest Response to Facts Quiz Statement 2[1] by

Experimental and Control Subjects

==

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	0.399	
Group (A)	1	1.135	4.5796*
Sex (B)	1	0.010	0.0405
AB	1	0.053	0.2145
Error	99	0.248	

*p < .05

[1]Statement 2: "All five senses tend to decline in old age."

Table 4

Analysis of Variance

Pretest Response to Facts Quiz Statement 5[1] by

Experimental and Control Subjects

===

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	0.235	
Group (A)	1	0.030	0.3223
Sex (B)	1	0.037	0.4003
AB	1	0.639	6.8871*
Error	99	0.093	

**p $<$ .01

[1]Statement 5: "The majority of old people feel
miserable most of the time."

Table 5

Analysis of Variance

Pretest Response to Facts Quiz Statement 6[1] by

Experimental and Control Subjects

==

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	0.351	
Group (A)	1	0.239	2.6985
Sex (B)	1	0.109	1.2269
AB	1	0.707	7.9729**
Error	99	0.089	

**$p < .01$

[1]Statement 6: "Physical strength tends to decline in old age."

Table 6

Analysis of Variance

Pretest Response to Facts Quiz Statement 11[1] by

Experimental and Control Subjects

==

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	0.401	
Group (A)	1	0.120	0.5051
Sex (B)	1	1.083	4.5591*
AB	1	0.000	0.0004
Error	99		

*p $<$ .05

[1]Statement 11: "Most old people are set in their
ways and unable to change."

Table 7

Analysis of Variance

Pretest Response to Facts Quiz Statement 14[1] by

Experimental and Control Groups

===

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	0.218	
Group (A)	1	0.034	0.5797
Sex (B)	1	0.586	0.9922**
AB	1	0.034	0.5456
Error	99	0.059	

**p $<$ .01

[1]Statement 14: "The reaction time of most old
people tends to be slower than
reaction time of younger people."

Table 8

Analysis of Variance

Pretest Response to Facts Quiz Statement 15[1] by

Experimental and Control Subjects

===

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	0.417	
Group (A)	1	0.487	4.3349*
Sex (B)	1	0.322	2.8605
AB	1	0.442	3.9347*
Error	99	0.112	

*$p < .05$

[1] Statement 15: "In general, most old people are pretty much alike."

Table 9

Analysis of Variance

Pretest Response to Facts Quiz Statement 18[1] by

Experimental and Control Subjects

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	0.386	
Group (A)	1	0.109	0.4420
Sex (B)	1	1.011	4.0844*
AB	1	0.039	0.1562
Error	99	0.247	

*$p < .05$

[1] Statement 18: "Older workers have fewer accidents than younger workers."

Table 10

Analysis of Variance

Posttest Response to Facts Quiz Statement 6[1] by

Experimental and Control Subjects

==

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	0.401	
Group (A)	1	0.369	2.8172
Sex (B)	1	0.177	1.3479
AB	1	0.658	5.0161*
Error	99		

*$p < .05$

[1]Statement 6: "Physical strength tends to decline in old age."

Table 11

Analysis of Variance

Posttest Response to Facts Quiz Statement 8[1] by

Experimental and Control Subjects

==

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	0.646	
Group (A)	1	0.090	0.3710
Sex (B)	1	1.180	4.8502*
AB	1	0.667	2.7418
Error	99	0.243	

*$p < .05$

[1]Statement 8: "Aged drivers have fewer accidents
per person than drivers under age
65."

Table 12

Analysis of Variance

Posttest Response to Facts Quiz Statement 14[1] by

Experimental and Control Subjects

==

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	0.387	
Group (A)	1	0.095	1.1033
Sex (B)	1	1.042	12.0613*
AB	1	0.022	0.2584
Error	99	0.086	

*p < .01

[1]Statement 14:   "The reaction time of most old
people tends to be slower than
reaction time of younger people."

Table 13

Analysis of Variance

Posttest Response to Facts Quiz Statement 16[1] by

Experimental and Control Subjects

==

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	0.321	
Group (A)	1	0.203	1.0278
Sex (B)	1	0.007	0.0355
AB	1	0.753	3.8155*
Error	99	0.197	

*p = .0506

[1]Statement 16: "The majority of old people are
    seldom bored."

Table 14

Analysis of Variance

Posttest Response to Facts Quiz Statement 23[1] by

Experimental and Control Subjects

==

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	0.557	
Group (A)	1	1.174	5.1651*
Sex (B)	1	0.002	0.0082
AB	1	0.496	2.1831
Error	99	0.227	

*$p < .05$

[1]Statement 23: "Older people tend to become more religious as they age."

Table 15

Analysis of Variance

Total Number of Correct Responses to Posttest Facts

Quiz by Experimental and Control Groups

===

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	31.374	
Group (A)	1	7.829	1.0461
Sex (B)	1	71.641	0.5722**
AB	1	14.652	1.9577
Error	99	7.484	

**$p < .01$

APPENDIX D

Table 1

Analysis of Variance

Pretest Response to Attitude Inventory Statement 26[1]
by Experimental and Control Groups

===

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	2.127	
Group (A)	1	1.383	1.5354
Sex (B)	1	3.744	4.1574*
AB	1	1.255	1.3933
Error	99	0.901	

*$p < .05$

[1]Statement 26: "As people grow older, their think-
ing becomes less flexible and they
are less willing to contemplate new
ideas."

Table 2

Analysis of Variance

Pretest Response to Attitude Inventory Statement 29[1]

by Experimental and Control Subjects

==

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	1.642	
Group (A)	1	0.001	0.0023
Sex (B)	1	3.670	5.6701*
AB	1	1.253	1.9362
Error	99	0.647	

*p < .05

[1]Statement 29: "Physical limitations imposed by aging (i.e., being bedridden or no longer being able to climb stairs) are a source of frustration and discouragement in older people."

Table 3

Analysis of Variance

Posttest Response to Attitude Inventory Statement 2[1]

by Experimental and Control Subjects

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	1.395	
Group (A)	1	3.336	5.5391*
Sex (B)	1	0.193	0.3207
AB	1	0.657	1.0905
Error	99	0.602	

*$p < .05$

[1]Statement 2: "As people grow older, a reliance on glasses, canes, walkers, special diets, medicines, etc. is to be expected."

Table 4

Analysis of Variance

Posttest Response to Attitude Inventory Statement 7[1]

by Experimental and Control Subjects

===

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	1.238	
Group (A)	1	2.373	4.1074*
Sex (B)	1	0.260	0.4497
AB	1	1.082	1.8733
Error	99	0.578	

*p < .05

[1]Statement 7:   "The knowledge that death is
                  approaching with each passing year
                  makes the old feel more insecure."

Table 5

Analysis of Variance

Poasttest Response to Attitude Inventory Statement 8[1]

by Experimental and Control Subjects

==

Scores	d.f.	Mean Square	F Ratio
Between Subjects	3	1.899	
Group (A)	1	1.760	4.7640*
Sex (B)	1	0.016	0.0433
AB	1	3.922	10.6157**
Error	99	0.369	

*p < .05

**p < .01

[1]Statement 8: "The ability of the older person to get out and do new things is impaired by his/her dependence on others for transportation."

Table 6

Analysis of Variance

Posttest Response to Attitude Inventory Statement 10[1]

by Experimental and Control Subjects

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	2.317	
Group (A)	1	4.318	8.1854*
Sex (B)	1	0.684	1.2959
AB	1	1.951	3.6987
Error	99	0.527	

*p < .01

[1]Statement 10:   "As people grow older they become distressed at the loss of their youthful appearance."

Table 7

Analysis of Variance

Posttest Response to Attitude Inventory Statement 14[1]

by Experimental and Control Subjects

==

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	1.043	
Group (A)	1	0.004	0.0090
Sex (B)	1	0.543	1.0902
AB	1	2.582	5.1857*
Error	99		

*p < .05

[1]Statement 14:   "Most old people have only enough money to purchase the necessities for living."

Table 8

Analysis of Variance

Posttest Response to Attitude Inventory Statement 17[1]

by Experimental and Control Groups

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	2.450	
Group (A)	1	4.216	5.9279*
Sex (B)	1	0.009	0.0126
AB	1	3.125	4.3937*
Error	99	0.711	

*$p < .05$

[1]Statement 17: "If one is old and pessimistic, it is only because he/she was pessimistic in youth."

Table 9

Analysis of Variance

Posttest Response to Attitude Inventory Statement 27[1]

by Experimental and Control Subjects

===

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	1.998	
Group (A)	1	0.362	0.4435
Sex (B)	1	0.171	0.2101
AB	1	5.462	6.6999*
Error	99	0.815	

*p < .05

[1]Statement 28: "A person's temperament is not determined by age alone.

Table 10

Analysis of Variance

Total Score on Posttest Attitude Inventory

of Experimental and Control Subjects

===

Source	d.f.	Mean Square	F Ratio
Between Subjects	3	193.218	
Group (A)	1	84.876	0.8641
Sex (B)	1	17.432	0.1775
AB	1	477.344	4.8597
Error	99	98.226	

*p < .05

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