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Altruistic Behavior as a Function of Self-Concept and Social Influence

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ALTRUISTIC BEHAVIOR AS A FUNCTION OF SELF-CONCEPT
AND SOCIAL INFLUENCE

Kestutis A. Trimakas

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LIFE

Kestutis A. Trimakas was born in Kaunas, Lithuania, July 12, 1930. After attending primary and secondary schools in Lithuania and Germany, he entered a Jesuit novitiate in the United States. He received the degree of Bachelor of Arts in 1955 and the degree of Master of Arts in 1956 from Boston College, and the licentiate in theology in 1961 from Weston College, Weston, Mass. He was ordained a priest in 1960. In 1962-1968, he was the editor-in-chief of Laiskai-Lietuviams, a monthly review. In 1968 he was admitted to the graduate studies in psychology at Loyola University, Chicago. Two years later he obtained a degree of Master of Arts. From 1970 until the present he has been a doctoral candidate in experimental psychology at Loyola University, Chicago.
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CHAPTER I

A FRAME OF REFERENCE FOR THIS STUDY

Contemporary American society is sometimes characterized as a society which glorifies youth. In such a society elderly people may be easily overlooked and neglected. The neglect of the aged may pervade not only life but science as well. For instance, in psychological research, college students are far more popular subjects of investigation than are elderly people (Smart, 1966) so much so that contemporary social psychology has been named "social psychology of the college sophomore." However, nobody can reasonably affirm that an elderly person with his life experience can reveal less about human behavior than a sophomore who is still on the threshold of life.

Of course, convenience and availability of college students have much to do with their being frequently chosen as subjects of psychological research. However, as psychologists expand and deepen their interests in human life and experience, they discover the overlooked senior subjects.

The signs that psychology of old age is on the surge are already at hand. As a very recent comprehensive review of American geropsychology testifies, "15 to 20 years ago it was possible to know almost all the psychological research on aging published in this country;" however, now for the 1963-1968 year period, nearly 2000 references were found "which could be classified as psychological (Botwinick, 1970, p. 239)." The review lists 26 books published during the five-year period which attempt in some way to integrate material on psychological aging.

The present study joins the new trend in American psychology to
investigate the elderly person. As one approaches him with respect, questions arise of great human significance. Erikson (1963) characterized old age as the final stage of human maturing, the eighth age of man in whom "may gradually ripen ego integrity, the fruit of the past seven stages (p. 268)."

Ego integrity includes awareness-affirmation-acceptance both of oneself and of others. On the other hand, old age involves shrinkage of life, a "disengagement" (Cumming, Dean, & Newell, 1960; Cumming & Henry, 1961), the diminishment of experiences both in one's own capacities and in contact with others. The shrinkage is a negation. The aim for ego integrity is an affirmation. There is a conflict between the two forces in old age.

This study aims to investigate elderly people in this conflicting stage of their lives. It focuses on the two most fundamental psychological objects, the self and others. Zeroing in on this broad question, it explores altruistic behavior of elderly people as a function of their self-concept and social influence. Consequently, this study is a meeting ground for four factors: (1) old age, (2) self-concept, (3) altruism, and (4) social influence. Their expected relationship is elucidated in the following review of research literature.
CHAPTER II
REVIEW OF THE RELATED LITERATURE
Self-Concept and Old Age

In the past four decades the concept of self has found an increasingly prominent place in the psychology of personality (Allport, 1943; Bertocci, 1945; Cattell, 1950; Chein, 1944; Hilgard, 1949; Jung, 1953; Koffka, 1935; Lundholm, 1940; Mead, 1934; Murphy, 1947; Rogers, 1951; Sarbin, 1952; Sherif & Cantril, 1947; Snygg & Combs, 1949; Stephenson, 1953; Sullivan, 1953; Symonds, 1951). The most comprehensive review of research on self-concept was made by Wylie (1961).

Recent advances in research and theory of geropsychology are reviewed by Birren (1964), Botwinick (1967, 1970), Bromley (1966), and Talland (1968). There have been few longitudinal studies which measured self-concept as a function of age. Self-acceptance, as measured by an adjective check list, was found to be related to chronological age in a curvilinear fashion among male nonpsychiatric patients, 20-69 years old (Bloom, 1961). Self-acceptance showed a steady increase from the 20's until the 40-49 year period and then began a steady decline. Lehner & Gunderson (1953), Mason (1954), and Kogan & Wallach (1961) observed similar decline in the self-concept of old people.

Two recent studies (Grant, 1966; Hess & Bradshaw, 1970) found a continuous increase of self-concept as a function of age. Hess and Bradshaw used the Gough Adjective Check List and their oldest subjects were 65 years. Grant employed the Tennessee Self-Concept Scale (TSCS) and her oldest group was composed of people 60-69 years old. Since the two studies did not
investigate subjects in their 70's and above, their evidence is limited and
does not necessarily contradict the curvilinear relationship that was found
to exist between self-concept and age in other studies. However, they
cautions one not to jump to a definite conclusion in favor of curvilinear
relationship. Mason's (1954) study also hints at the importance of situational and individual differences.

Many studies of the aged on variables related to self-concept indirectly
show that such a curvilinear relationship between age and self-concept may
exist. The findings of these studies show a steady decrease of variables
associated with self-concept. For instance, with old age, work efficiency
and memory decrease (Baumler, 1969), physical and psychological anxiety
increases (Gurin, Weroff, & Feld, 1960), neuroticism increases (Aaronson,
1964; Hardycx, 1964; Postema & Schell, 1967), caution increases (Wallach &
Kogan, 1961), reaction time to words expressive of emotional disturbance
increases (Olsen & Elder, 1958). Besides, a curvilinear relationship be-
tween age and the degree of personal happiness was found by Kuhlen (1956),
that is, happiness increased in adult age, but decreased in old age. How-
ever, Pearson, Swenson, and Rome (1965) found an increase in satisfaction
among old adults as compared with 40-year-old adults.

From direct and indirect evidence, one may with some assurance con-
clude that (1) self-concept relates with age in a curvilinear fashion, and
(2) that it declines with advancing old age. This evidence is in line with
Buhler's (1935) theory of human development which asserts that a psychological
curve of development exists which parallels the biological curve in a
sequence of expansion, stability, and restriction (for similar views, see
Grant's (1966) Study

Grant's (1966) study deserves special mention because it is the only reported study which has applied the same self-concept scale to old people as the present investigation (confer Fitts, 1965, and the annual 1967-1971 lists of references distributed by the publishers of the TSCS with 235 entries).

In her cross-sectional survey Grant investigated 20-29, 30-39, 40-49, 50-59, and 60-69 year-old groups. She employed the TSCS, Cattell's 16 PF Personality Factor Questionnaire (Cattell & Stice, 1963), and other items. She did not use the usual TSCS scoring system, but, by factor analysis, she extracted and identified 15 factors: negative self-concept, emotional warmth, emotional insecurity, socioeconomic status, masculinity, self-satisfaction, concern with personal irresponsibility, life-satisfaction, mobility, family alienation, passivity, physical illness complaints, satisfaction with personal appearance, denial, and social insecurity.

Significant age differences among both sexes were found in the following factors related to self-concept: negative self-concept, emotional warmth, and family alienation decreased with age; physical illness complaints and the use of denial increased with age. Self-satisfaction, life-satisfaction, and physical-appearance satisfaction did not change with age. However, women were found to be more satisfied than men--statistically significantly with life, and insignificantly with self. Women used slightly but significantly less denial than men. They reported statistically significantly more than men about their social insecurity, and less than men about being concerned with their own irresponsibility. Besides, women were found to report feelings of emotionality or insecurity more readily than men; however,
among women, there was a slight decline of this tendency with age.

In a brief presentation of the same study, Grant (1969) summed up the results as follows:

The results rather clearly indicate that self-concept is a multi-dimensional trait and that people's feelings about themselves do change, and to some extent, as a function of the maturing process.... The most general finding was that the feelings which the person reports about himself tend to become more positive with age (p. 717).

The results indicate an increase in positive self-concept in old age. They do not express a curvilinear relationship between self-concept and age and thus they are in disagreement with Buhler's theory of expansion-stability-restriction.

Grant (1969) presented three possible interpretations of this fact: (1) that "aging involves a voluntary withdrawal and is perceived by many as a desirable stage of life;" (2) that "the increase shown in the reported self-concept with age is the tendency toward denial rather than any increase in actual positive feelings about the self;" and (3) that the findings could be a "confirmation of a need to expand continually one's horizons (p. 717)."

A Hypothesis

The present study is one of the first to apply the TSCS to a sample of individuals 70 years old and above. Despite Grant's (1966) contrary findings in the 60-69 year-old group, it is expected that the results of this study, especially with an older sample, would support Buhler's theory by finding a steady decline in self-concept among the aged. Consequently, a hypothesis is proposed to be tested.

Hypothesis 1: There is a statistically significant negative correlation between self-concept and old age.
In addition, this study attempts to make some observations concerning the question whether past education and present marital status is related to the self-concept of the aged.

Part II: Altruism

The Concept of Altruism

Various kinds of human behavior, such as being generous (e.g., Schopler & Thompson, 1968; White, 1967), sharing (e.g., Staub, 1968), doing a favor (e.g., Berkowitz & Conner, 1966), making up for a transgression (e.g., Freedman et al., 1967), helping (e.g., Bryan & Test, 1967), modeling altruistic behavior of others (e.g., Wheeler & Wagner, 1968), etc., were reviewed by Krebs (1970) under the term "altruistic behavior." Two common attributes are evident in this kind of activity: (1) other-directedness, that is, doing or giving something good to another, and (2) self-sacrifice, either by making an effort or by giving up something on behalf of another.

Heider (1958) and Leads (1963) indicated the importance of intention in altruistic activity. Piaget (1932), Kohlberg (1964), Tesser, Gatewood, and Driver (1968) and others demonstrated that it is more the intention behind an act than its consequences that determines its moral value. Intention as an essential aspect of an altruistic act has been overlooked or neglected by research so far (see Krebs, 1970, p. 258).

This study has been designed to take account of intention as an important aspect of an altruistic act (see section on Hypothesis, in this chapter).

Altruism and Age

Altruism as a function of age has not received sufficient attention. Most studies in this area employed children. Yet even in the research of
children interstudy comparisons are difficult to make because of marked differences in the nature of altruistic tasks and in dissimilarity of age groups. Still some consistencies in the findings of the research can be observed.

American kindergarden children were found to be low in generosity (Floyd, 1964; Handlon & Gross, 1959; Staub & Feagans, 1969; Ugurel-Semin, 1952). An increase in altruism takes place in the first three grades of elementary school (Midlarsky & Bryan, 1967; Staub & Feagans, 1969; and, with an exception, Ugurel-Semin, 1952; yet no significant increase was found by Floyd, 1964). A still more pronounced increase was found among the fourth, fifth, and sixth grades (Handlon & Gross, 1958; Midlarsky & Bryan, 1966; Ugurel-Semin, 1952).

Situational states and modeling tended to offset the altruistic increase with age. In an emergency situation helping responses decreased in fourth and sixth grades (Staub & Feagans, 1969). No consistent increase with age was observed in some modeling conditions (Aaronfreed & Paskel, 1968; M. Harris, 1968). Staub (1968) found a tendency (p < .10) toward an increase in sharing from the fourth to the fifth grade after success, but decrease after failure.

Besides the studies of altruistic behavior, three other investigations measured verbal indications of altruistic predispositions. They also found that altruism increased with age. L. Harris (1967) used the completion of stories as a criterion to select most and least altruistic children. He found that the ratio of most versus least altruistic children was greater for fifth and sixth grades than for third and fourth grades. Durkin (1961) found that more fifth-grade children gave altruistic responses to make-believe
situations than second-grade children. Shure (1968) found that (1) eight-
and ten-year-old children were similar to adults in judgments of fairness,
generosity, and selfishness, and (2) they differed in these judgments from
four and six-year-old children.

To sum up, studies based on behavioral and paper-and-pencil measures
of altruism show that there is an increase in altruism with age among children.
As the child develops his altruism develops, too. One may assume that the
child's altruism develops, among other things, because of his socialization
and broadening life opportunities. In old age the contrary may happen.
Social and physical life opportunities are narrowing. Consequently, one
could expect a decrease in social awareness and altruism. However, the ex-
pressed wishes and duties of normal elderly people were found to be directed
toward others in a significantly greater degree than the desires and duties
expressed by young people (Frenkel & Weisskopf, 1937). Besides, self-
acceptance in adults has been observed to be positively related to their
acceptance of significant others (Rudikoff, 1954; Sheerer, 1949) and to
positive feelings toward others (Stock, 1949).

This study does not propose a hypothesis about altruism as a function
of old age. Its primary purpose is to explore altruistic behavior of elderly
people as a function of self-concept and social influence. In accordance
with this purpose, subjects are divided into groups according to different
levels of self-concept and social influence conditions but not according to
age. Age is randomly distributed, not controlled. A correlation between age
and altruism will be computed but with an awareness that altruism scores are
affected by self-concept levels and social influence conditions.
Altruism and Personality Traits

As far as it is known to the author, there have been no studies of altruism as a function of self-concept. Consequently, no review of literature on this important topic can be made. Nevertheless it is useful to review the literature on personality traits of altruistic people in order to predict variations in altruistic behavior as a function of self-concept.

In an attempt to find out what kind of people are altruistic, various trait-oriented correlational studies were conducted. Ratings of others, pencil-and-paper tests, and behavioral measures were used to assess altruism.

Four studies have defined altruism according to the ratings of acquaintances. Altruism was found to correlate positively with ethical goodness, emotional stability, and social adjustment of male children and adolescents (Turner, 1948); with social extraversion of female college students (Cattell & Horowitz, 1952); with attractiveness as a friend, sociability, authoritarianism, political conservatism of male college students (Friedrichs, 1960); with social and religious values, need for nurturance, and need for autonomy of female college students (MacDonald, 1966).

Three studies of college students defined altruism according to scores on pencil-and-paper tests. Friedrichs (1960) found low positive correlations between altruism as measured by Likert-type questionnaire and measures of theism and church attendance; and low negative correlations for ethnocentrism and neuroticism. Riball (1963) observed that altruistic females had high needs for affiliation and intraception, and low needs for achievement and dominance, as defined by the Edwards Personal Preference Schedule. Altruistic males scored high on need for endurance. Sawyer (1966) found that altruistic behavior did not correlate with authoritarianism.
Both rating scales and pencil-and-paper tests of altruism have been subject to criticism due to deficiency of their validity (Krebs, 1970) and high positive correlation with social desirability (Stone, 1965a, 1965b). In view of these criticisms, the results of these studies should be evaluated with caution and in the context of the results of other studies.

More objective are the behavioral measures of altruism. Studies which used these behavioral measures found fewer significant relationships of altruism to personality traits. Subjects who responded to emergency pleas for help did not differ in scores from those who failed to respond in Machiavellianism, anomie, authoritarianism, need for approval or social responsibility (Darley & Latane, 1968); nor in deference, autonomy, or submissiveness as measured by Edward's Deference and Autonomy Scales and Allport's Ascendence-Submissiveness Scale (Korte, 1969). However, studies which have employed more usual situations have found altruism to be related to some personality traits. Boys, more generous to their favorite classmates in their behavior, were also rated by their teachers as more generous, less competitive than the others (Rutherford & Mussen, 1968). Children who were more generous in giving, scored lower on an adapted Crowne-Marlowe need for approval scale than those who gave less (Staub & Sherk, 1970).

The relationship between behavioral measures of altruism and locus of control (as defined by Rotter, 1966) was observed in three studies. Students were more willing to help in a civil rights project if they considered themselves to possess internal control over their fates than if they thought their fate was externally controlled (Gore & Rotter, 1963). Fourth-grade children characterized by high internal control shared more after success and less after failure and after neutral experience than those characterized by
low internal control (Staub, 1968). Midlarsky (1968) found a positive
correlation between helping at the cost of receiving shocks and internal
 locus of control.

At this initial stage of investigation it is difficult to draw any
definite conclusions about personality traits of altruistic people. Studies
differ greatly as far as subject samples, independent variables, and
measures of altruism are concerned. Yet there is some consistency among
findings. As far as children are concerned, altruism is positively related
to social adjustment, emotional stability, and negatively to aggressiveness,
quarrelsomeness, competitiveness, and assertiveness. Among college students,
altruism is positively related to social orientation. Altruistic male
students are free from neuroticism, with need for endurance, slightly con-
servative, and tend to think they control their fates, whereas females are
nurturant, with low needs for achievement and dominance, possessing social
and religious rather than political and economic values.

A Hypothesis Concerning Altruism and Self-Concept

From the previous review of the findings on altruism and personality
traits the following prediction can be made. One may assume that those who
are more socially adjusted, socially oriented, emotionally stable, free from
neuroticism, with thoughts of inner control, less quarrelssome, have a higher
self-esteem and self-satisfaction, and consequently a more positive self-
concept. Thus, since the above-mentioned characteristics are found to be
positively related to altruism, then positive self-concept is expected to be
positively related to altruism. This study intends to examine this pre-
diction. A hypothesis is proposed.

Hypothesis 2: Subjects with a more positive self-concept exhibit
altruistic behavior to a significantly greater degree than subjects with a
less positive self-concept.

**Influence of Others upon Altruistic Behavior**

Imitation and conformity are two ways of letting oneself be influenced
by others (Asch, 1952; Bandura & Walters, 1963). Since imitation and con-
formity may have ulterior, not altruistic motives, it is difficult to decide
whether a given behavior is actually or only apparently altruistic. As the
following review shows, research so far has not investigated the motives
behind actual and only apparently altruistic acts.

Observation of a charitable model elicits congruent behavior (Bryan &
Test, 1967; Test & Bryan, in press; Wheeler & Wagner, 1968; Rosenhan &
White, 1967). Model's behavior is more effective than words. Children were
more prone to donate marbles after seeing a model donate than after hearing
him verbalize the appropriate behavior (Grusec & Skubiski, 1970). Children
tended to imitate the action of a model rather than his words (Bryan & Walbek,
1969; no effect was found for discrepancy between the model's word and
deed).

Group standards influence adult group members to imitate apparently
altruistic behavior (Blake et al., 1955; Schachter & Hall, 1952; Blake
et al., 1956; Rosenbaum & Blake, 1955) or to refrain from such action (Darley
& Latane, 1968; Latane & Darley, 1968). The latter inaction is partly due
to the diffusion of responsibility in adults (Allen, 1968; Korte, 1969;
Latane & Rodin, 1969; Darley, 1967) and in children at the fourth grade
but not younger (Staub & Feagans, 1969).

The research shows that others affect apparently altruistic behavior.
Since no attempt has been made to test motive behind such activities, it is
impossible to ascertain whether the acts were motivated by conformity and imitation, or by altruistic intention, or by both.

**A Hypothesis**

This study attempts to explore the effect of social influence on altruistic behavior. The presence or absence of social influence, its positive or negative valence present some basis for inferring the intentions of subjects.

People have been found to change their behavior because of social influence for two reasons: (1) because they tend to conform their behavior to that of others (conformity: Asch, 1952); and (2) because they tend to change their behavior, if others observe it, know or will know about it (audience or publicity: F. H. Allport, 1920; Rosenberg, 1965). The twofold social influence is varied in this study to find out the variations in altruistic responses.

It is expected that subjects in positive influence condition, that is those who are told that people usually share money with others and that their own choice will be made known to others, will choose to share more money than those who are under no influence. Moreover, it is expected that the subjects in negative influence condition, that is those who are told that others usually keep money to themselves and that their own choice will not be made known to others, will choose to share less money than those who are under no influence. To this effect, the following hypothesis is proposed.

**Hypothesis 3:** (1) Subjects in positive social influence condition exhibit statistically significantly more altruistic behavior than subjects in no-influence condition; and (2) subjects in negative social influence condition exhibit significantly less altruistic behavior than subjects in no-influence condition.
CHAPTER III

METHOD

Part I: Self-Concept

Operational Definition

Self-concept in this study is defined operationally as an individual's conscious description of himself as measured by his endorsement on the Tennessee Self-Concept Scale (TSCS).

The Scale is used here because it is simple (a characteristic which is particularly important for the aged), multidimensional, and sufficiently valid.

The Tennessee Self-Concept Scale

The TSCS consists of 100 self descriptive statements which the subject uses to portray his own picture of himself. Each statement is to be answered on a 5-point scale: 1, completely false; 2, mostly false; 3, partly false and partly true; 4, mostly true; and 5, completely true.

The TSCS is divided into two main parts: Positive Self-Esteem Scale with 90 statements and Self-Criticism Scale with 10 statements. The Positive Self-Esteem Scale consists of a two-dimensional, 3x5 scheme of subscales. The whole set of items is divided two ways, vertically into columns for external frame of reference and horizontally into rows for internal frame of reference.

Row I deals with identity, statements what I am; Row II measures self-satisfaction, how I feel about myself; and Row III treats behavior, how I act. Columns measure various aspects of the person's view: physical self (Column A), moral-ethical self (Column B), personal self (Column C), family self (Column D), and social self (Column E).

Row I Positive Score: Identity. These are the "What I am" items.
Here the individual is describing his basic identity, what he is as he sees himself.

**Row II Positive Score: Self-Satisfaction.** This score comes from the items which the individual uses to describe how he feels about the self he perceives. This score reflects the level of self-satisfaction or self-acceptance.

**Row III Positive Score: Behavior.** This score comes from those items that say "this is what I do," or "this is the way I act." Thus this score measures the individual's perception of his own behavior or the way he functions.

**Column A: Physical Self.** Here the individual is presenting his view of his body, his state of health, his physical appearance, skills, and sexuality.

**Column B: Moral-Ethical Self.** This score describes the self from a moral-ethical frame of reference—moral worth, relationship to God, feelings of being a "good" or "bad" person, and satisfaction with one's religion or lack of it.

**Column C: Personal Self.** This score reflects the individual's sense of personal worth, his feelings of adequacy as a person and his evaluation of his personality apart from his body or his relationships to others.

**Column D: Family Self.** This score reflects one's feelings of adequacy, worth, and value as a family member. It refers to the individual's perception of self in reference to his closest and most immediate circle of associates.

**Column E: Social Self.** This is another "self as perceived in relation to others" category but pertains to "others" in a more general way. It reflects the person's sense of adequacy and worth in his social interaction with
other people in general.

**Total Positive Score.** This is the most important single score. It reflects the overall level of self-esteem. It is obtained by adding all row or all column scores.

**The Self-Criticism Score (SC).** This scale is composed of 10 items. They have been taken from the L Scale of the Minnesota Multiphasic Personality Inventory. These are all mildly derogatory statements that most people admit as being true for them.

**The Variability Scores (V)** provide a simple measure of the amount of variability, or inconsistency, from one area of self perception to another. **The Total Variability Score** represents the total amount of variability for the entire record. **The Column Total Variability Score** measures and summarizes the variations within the columns. **The Row Total Variability Score** is the sum of the variations across the rows.

**The Distribution Score (D)** is a summary score of the way one distributes his answers across the five available choices in responding to the items of the Scale. **The True-False Ratio (T/F)** is a measure of response set or response bias, an indication of whether the subject's approach to the task involves any strong tendency to agree or disagree regardless of item content.

**Net Conflict Scores.** These scores are highly correlated with the T/F Score. More directly, however, they measure the extent to which an individual's responses to positive items differ from, or conflict with, his responses to negative items in the same area of self perception. There are two different kinds of conflict: (1) acquiescence conflict which occurs when the positive scores are greater than the negative scores (this means that the subject is over-affirming his positive attributes) and (2) denial conflict
which happens when the subject is over-denying his negative attributes in relation to the way he affirms his positive characteristics.

**Total Conflict Scores.** This score sums positive-negative score discrepancies regardless of a sign and this shows the total amount of positive-negative conflict in a subject's self-concept as well as the net amount of conflict.

**Empirical Scales.** The six scales were all derived by item analysis, with a resulting selection on those items which differentiated one group of subjects from all other groups. The scores on these scales are purely empirical, and cut across the basic classification scheme of the Scale.

The **Defensive Positive Scale (DP)** is a more subtle measure of defensiveness than the Self-Criticism Scale. It is significant at its extremes: a high DP score indicates a positive self-description stemming from defensive distortion; a low DP score means that the person is lacking the usual defenses for maintaining even minimal self-esteem. The **General Maladjustment Scale (GM)** is composed of 24 items which differentiate psychiatric patients from non-patients but do not differentiate one patient group from another. The **Psychosis Scale (Psy)** is based on 23 items which best differentiate psychotic patients from other groups. The **Personality Disorder Scale (PD)** with its 27 items attempts to identify people with basic personality defects. The **Neurosis Scale (N)** with its 27 items differentiates neurotics. The **Personality Integration Scale (PI)** consists of the 25 items that differentiate the integrated personality group from other groups.

**Reliability of the TSCS**

Fitts (1965) reports that the test-retest reliability coefficients of the major scores of the TSCS ranged from .60 to .92 with the Total Positive Score
having the highest coefficient, .92.

Other evidence of reliability is found in the remarkable similarity of profile patterns discovered through repeated measures of the same individual over long periods of time.

Validity of the TSCS

Content validity. The original pool for the TSCS was derived from written self-descriptions of patients and nonpatients and a number of other self-concept measures including those developed by Balester (1956), Engel (1956), and Taylor (1953). After considerable study, a phenomenological system was developed for classifying items on the basis of what they themselves were saying. After the items were edited, seven clinical psychologists as judges classified the items according to the 3x5 scheme already indicated. The final 90 items utilized in the TSCS are those which were perfectly agreed upon by the judges.

Construct validity. With regard to construct validity, two investigators (Vacchiano & Strauss, 1968) have recently submitted the TSCS to factor analysis. Twenty interpretable factors emerged. Grouped accordingly they accounted for five TSCS variables, Physical Self, Moral Self, Personal Self, Social Self, and Family Self. The results support the claim that the TSCS does provide the five proposed measures of the self.

Discrimination between groups. Personality theory and research indicate that groups which differ on certain psychological dimensions should differ also in self-concept. Using the TSCS, significant differences were found between patients and nonpatients (Fitts, 1965, mostly at the .001 level; Congdon, 1958; Piety, 1958; Havener, 1961; and Wayne, 1963); between psychologically integrated and average persons (Fitts, 1965);
unwed mothers and average persons (Boston & Kew, 1964); between alcoholics and nonalcoholics (Wells & Bueno, 1957); between delinquents and nonde­linquents (Atchison, 1958); and between juvenile offenders and repeated offenders (Lefeber, 1964).

Cross-validation. An important validity question is the problem of cross-validation. Fitts (1965) demonstrated that the level of discrimination obtained by original groups, which served to establish cutoff points and from which the empirical TSCS scales were derived, holds up quite well with the cross-validation groups of patients and nonpatients.

Correlations with other personality measures. Most of the TSCS sub­scales correlate with the Minnesota Multiphasic Personality Inventory scales in ways one would expect from the nature of the scales (McGee, 1960). Certain lack of correlation is interpreted as due to extreme scores on the part of patients, the subjects of the study. Sundby's (1962) study indicates rather clear nonlinear relationships between scores of the Edwards Personal Preference Schedule and the TSCS. Wehmer and Izard (1962) reported a positive correlation between the Total Positive Score of the TSCS and Izard's Self Rating Positive Affect Scale. Wayne (1963), besides replicating the same correlation, also found significant negative correlation between the Defensive Positive Score of the TSCS and his measure of Behavioral Hostility.

Personality changes under certain conditions. Effects of both negative (Gividen, 1959; on stress and failure) and positive experiences (Aschcraft & Fitts, 1964; on psychotherapy) were observed in the lowered and raised scores on the TSCS.

Subjects

In view of the twofold purpose of the study to investigate both self-
concept and altruistic behavior based on monetary sharing (see Chapter III, the section on Operational Definition of Altruism), the subjects had to fulfill the following three conditions: (1) they had to be capable of responding, either by themselves or with the experimenter's aid, to the items on the TSCS; (2) they still had to manage their own money and other affairs; that is, money still had to have value for them; and (3) they had to be of the same economic level. For that reason, a population of tenants living in low income senior housing projects was chosen. Again, since female-male ratio in the housing projects was found to be as high as six to one, only elderly women were chosen for this study.

Thus eventually 162 female tenants from low income senior housing projects were subjects for this investigation. Their age ranged from 66 to 88 years old, with the mean of 73.56 and standard deviation of 4.83. Thirty-five were in the sixties, 109 in the seventies, and 18 in the eighties. Eighteen were single, 15 were divorced, 107 were widows, and 22 lived with their husbands. As far as their past education was concerned, 11 had no formal schooling, 50 attended grammar school without completing it, 42 finished grammar school, 46 attended high school, but only 29 finished it, six attended college without graduating, and seven were college graduates.

Procedure

Among elderly people, especially of low income level, some are illiterate, physically incapable of reading or otherwise having difficulty either in reading or filling out questionnaires. Consequently, the following procedure was employed in the administration of the TSCS.

Each subject was approached by the experimenter and was asked whether she was willing to participate in a survey about elderly people by answering
a few questions about her health, personal and social life, family, etc. If she responded affirmatively, the experimenter showed her the TSCS booklet and explained the procedure of filling it out (simplified answer sheets were provided; see Appendix B). If the subject manifested no difficulty in reading or answering, she was allowed to fill out the questionnaire by herself. However, if the subject manifested any kind of difficulty in reading or answering the TSCS, the experimenter offered her assistance. He then read each statement to the subject and having heard the subject's vocal response marked the answer sheet accordingly. Besides filling out the TSCS, each subject was asked to indicate her age, marital status, and education.

Part II: Altruism

Operational Definition

Altruism involves (1) doing good to another or sharing something with another, (2) thereby giving up or making an effort, and (3) a primary motive thereby to do good to another. Altruistically motivated altruistic behavior involves all three factors; for instance, donating money to an orphanage because one wants to help orphans. Apparently altruistic behavior has only the first two factors and leaves out the consideration of the third factor, motive; for example, donating money to an orphanage is an apparently altruistic behavior--it may be performed with an altruistic but also with a selfish motive, for instance, to obtain esteem from others.

Since the primary purpose of this investigation is to study various motivational conditions and their influence upon the choice to give money, only apparently altruistic behavior has been defined operationally in this study. Thus altruism of each subject is measured according to her choice to give some money (which she may win in a lottery) for entertainment of others.
in the house in which she lives. The choice is made before the outcome of the lottery. One may win a total sum of $100.00. The subject may choose to share the whole sum, a part of it, or nothing. Consequently, altruism is scored according to the amount one chooses to share with others in case of winning $100.00: 100, 90, 80, 70, 60, 50, 40, 30, 20, 10, or 0.

Subjects

Tenants of low income senior housing projects were chosen as subjects of this study, since (1) they still managed their own economic and financial affairs, and (2) they were of the same economic level. The identity of their economic level was based on the fact that only such elderly persons are admitted to the low income senior housing projects who fulfill the following conditions: (a) their annual income does not exceed $3,500 for a single person and $4,600 for a couple; (b) their saving assets do not exceed $10,000 for a single person and $15,000 for a couple; and (c) on the average, their monthly income is $100.00-150.00.

The same 162 female tenants to whom the TSCS was administered were subjects for the second part of this study. They were divided into three equal groups (for each group, N = 54): the High Self-Concept Group (H), the upper third of the subjects with the Total Positive Score ranging from 392 up; the Middle Self-Concept Group (M), the middle third of the subjects with the Total Positive Score ranging from 376 to 391; and the Low Self-Concept Group (L), the lower third of the subjects with the Total Positive Score below 376. Then each group was randomly divided into three equal subgroups (for each subgroup, N = 18; see the description of the procedure in the section on Procedure in this chapter).
Method

Each subgroup of each group (H, M, L) underwent one of the following three conditions: positive social influence (P), no-influence (No), and negative social influence (Ne). Thus, in the 3x3 factorial design, nine subgroups were employed: HP, HNo, HNe, MP, MNo, MNe, LP, LNo, and LNe.

The three conditions were induced by means of instructions which the experimenter presented to each subject. A large portion of the instructions was identical for all conditions. This portion is reproduced below with three asterisks indicating where instructions specific to each condition were introduced. At the appropriate time, when the items were mentioned, the experimenter gave a lottery ticket and a keep-share choice card to the subject (see Appendix B for the design of the keep-share choice card):

Thank you for taking part in the survey. As a token of gratitude, I give you this lottery ticket. Please accept it. With this ticket you can win 100 dollars. The drawing will take place at the end of this survey and the winner will be informed immediately.

The winner may keep the 100 dollars or he may share them with everyone in the house by donating them to the house for entertainment. Or he may keep 90, 80, 70, 60, 50, 40, 30, 20, or 10 dollars, and share the rest with others.

(* * *)
Right now I want you to make your decision in secret. Think about it carefully and place a check in the proper place on the card how much money you will give or keep if you win the lottery. Then place the card in the envelope, seal the envelope, and put down your name and your lottery ticket number.

(* * *)
Please keep secret about your choice now and what I said to you about the lottery.

In the positive social influence condition, the following must be added in the spaces indicated by the asterisks: "The senior citizens usually are generous and share money with others. Besides, the winner's choice will be made public to all."
In the no-influence condition, the following are added: "It is all up to you and nobody in the house will ever know your decision."

In the negative social influence condition, the following are added: "The senior citizens usually need money and take it whenever money is being offered to them. The choice will not be made public. Nobody in the house will know if you decide to keep the money."

Procedure

The instructions for the altruistic choice were presented by the experimenter to each subject individually immediately after the administration of the TSCS.

Since at that instance the Total Positive Score of the individual was not yet computed and since the cutoff points for each of the three thirds of self-concept scorers were not known exactly until all subjects' Total Positive Scores were computed, the immediate control of the number of the subjects in each cell was not possible. In the final stage of data collection, it was decided to have 18 subjects in each cell. On the final day of data collection, four cells were found to contain more than 18 subjects, HP had 19, HNo had 21, LP had 19, and MNe had 22. To equalize the number in each cell, the surplus number of subjects from each of these cells was randomly eliminated.
CHAPTER IV

RESULTS

The obtained data were analyzed with respect to the two objects of this study: (1) the relation between self-concept and old age, and (2) altruistic behavior as a function of self-concept and social influence.

Part I: Self-Concept

Table 1 presents a comparison between obtained and normative TSCS scores. With General Maladjustment as the only exception, the differences between the sample's and the norm's means were found to be statistically significant. Table 2 shows the TSCS scores of the High, Middle, and Low Self-Concept Groups. Intercorrelations between the TSCS variables in the sample are reported in Table 3.

Self-Concept and Old Age

The sample's Total Positive Score was found to be rather high, 380.89. It is significantly higher than the normative score given by Fitts (1965, 345.57 from a sample of 625 people with an age range from 12 to 68). It indicates an increase in self-concept with old age.

Furthermore, the Total Positive Score of the subjects grouped according to age shows a steady increase (confer Table 4). This gradual rise manifests a positive linear relationship between self-concept and aging. To see whether this relationship is significant, a twofold statistical approach was undertaken: (1) an analysis of variance of age groups (see Table 5), and (2) a correlational procedure (see Table 3 in which age is correlated with the TSCS scores). Neither of the approaches showed any statistical significance. The $F$ ratio was small ($F = 1.519, df = 2, 159, n.s.$); so was the Pearson product-moment correlation coefficient between the Total Positive Score and age ($r = .09, df = 160, n.s.$).
### Table 1

**Comparison between Obtained and Normative TSCS Scores**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
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</thead>
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<tr>
<td>Total Positive Score</td>
<td>380.89</td>
<td>345.57</td>
<td>25.51</td>
</tr>
<tr>
<td>Identity (Id) (Tt Po)</td>
<td>129.28</td>
<td>127.10</td>
<td>8.88</td>
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<tr>
<td>Self-Satisfaction</td>
<td>125.16</td>
<td>103.67</td>
<td>12.68</td>
</tr>
<tr>
<td>Behavior (Beh) (Sf-Sa)</td>
<td>126.44</td>
<td>115.01</td>
<td>10.31</td>
</tr>
<tr>
<td>Physical Self (Ph Sf)</td>
<td>68.34</td>
<td>71.78</td>
<td>8.14</td>
</tr>
<tr>
<td>Moral Self (Mo Sf)</td>
<td>81.84</td>
<td>70.33</td>
<td>5.56</td>
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<tr>
<td>Personal Self (Pe Sf)</td>
<td>75.66</td>
<td>64.55</td>
<td>6.96</td>
</tr>
<tr>
<td>Family Self (Fa Sf)</td>
<td>78.88</td>
<td>70.83</td>
<td>6.26</td>
</tr>
<tr>
<td>Social Self (So Sf)</td>
<td>76.14</td>
<td>68.14</td>
<td>7.99</td>
</tr>
<tr>
<td>Self-Criticism (Sf-Cr)</td>
<td>28.06</td>
<td>35.54</td>
<td>7.62</td>
</tr>
<tr>
<td>Net Conflict (Nt Cf)</td>
<td>1.83</td>
<td>-4.91</td>
<td>17.72</td>
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<tr>
<td>Total Conflict (Tt Cf)</td>
<td>28.15</td>
<td>30.10</td>
<td>12.75</td>
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<tr>
<td>Total Variability (Tt Va)</td>
<td>45.96</td>
<td>48.53</td>
<td>11.73</td>
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<td>Column Variability (Co Va)</td>
<td>23.89</td>
<td>29.03</td>
<td>7.36</td>
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<td>Row Variability (Ro Va)</td>
<td>22.07</td>
<td>19.60</td>
<td>6.83</td>
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<td>True/False Ratio (T/F)</td>
<td>1.10</td>
<td>1.03</td>
<td>.34</td>
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<td>Distribution (D)</td>
<td>111.04</td>
<td>120.44</td>
<td>28.23</td>
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<tr>
<td>Defensive Positive (DP)</td>
<td>74.20</td>
<td>54.40</td>
<td>7.62</td>
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<tr>
<td>General Maladjustment</td>
<td>101.43</td>
<td>98.80</td>
<td>17.72</td>
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<tr>
<td>Psychosis (Psy) (GM)</td>
<td>52.91</td>
<td>46.10</td>
<td>12.75</td>
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<td>Personality Disorder (PD)</td>
<td>89.62</td>
<td>76.39</td>
<td>8.88</td>
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<td>Neurosis (N)</td>
<td>88.56</td>
<td>84.31</td>
<td>9.10</td>
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<tr>
<td>Personality Integration (PI)</td>
<td>6.07</td>
<td>10.42</td>
<td>3.59</td>
</tr>
</tbody>
</table>

*Inverse scales: i.e., low scores on these scales mean high similarity to the group of patients from which the scale was derived.

* P < .05.  ** P < .01.
Table 2
The TSCS Scores of High, Middle, and Low Self-Concept Groups

<table>
<thead>
<tr>
<th>Scale</th>
<th>High Self-Concept</th>
<th>Middle Self-Concept</th>
<th>Low Self-Concept</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Tt Po</td>
<td>406.18</td>
<td>8.45</td>
<td>383.50</td>
</tr>
<tr>
<td>Id</td>
<td>136.00</td>
<td>5.05</td>
<td>130.48</td>
</tr>
<tr>
<td>Sf-Sa</td>
<td>135.44</td>
<td>6.69</td>
<td>126.78</td>
</tr>
<tr>
<td>Beh</td>
<td>134.74</td>
<td>5.69</td>
<td>126.17</td>
</tr>
<tr>
<td>Ph Sf</td>
<td>74.52</td>
<td>5.72</td>
<td>68.43</td>
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<tr>
<td>Mo Sf</td>
<td>85.80</td>
<td>3.77</td>
<td>82.35</td>
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<tr>
<td>Pe Sf</td>
<td>81.43</td>
<td>3.67</td>
<td>76.74</td>
</tr>
<tr>
<td>Fa Sf</td>
<td>82.98</td>
<td>4.09</td>
<td>79.06</td>
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<tr>
<td>So Sf</td>
<td>81.46</td>
<td>4.15</td>
<td>76.85</td>
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<tr>
<td>Sf-Cr</td>
<td>27.28</td>
<td>6.70</td>
<td>25.56</td>
</tr>
<tr>
<td>Nt Cf</td>
<td>0.61</td>
<td>13.41</td>
<td>4.37</td>
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<tr>
<td>Tt Cf</td>
<td>22.17</td>
<td>8.12</td>
<td>26.63</td>
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<tr>
<td>Tt Va</td>
<td>37.09</td>
<td>8.89</td>
<td>49.00</td>
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<tr>
<td>Co Va</td>
<td>18.92</td>
<td>5.87</td>
<td>26.06</td>
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<tr>
<td>Ro Va</td>
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<td>5.08</td>
<td>22.94</td>
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<td>T/F</td>
<td>1.06</td>
<td>0.19</td>
<td>1.13</td>
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<tr>
<td>D</td>
<td>160.07</td>
<td>15.57</td>
<td>142.94</td>
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<tr>
<td>DP</td>
<td>82.15</td>
<td>6.70</td>
<td>76.96</td>
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<td>GM(^a)</td>
<td>108.65</td>
<td>3.91</td>
<td>101.50</td>
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<td>Psy</td>
<td>51.37</td>
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<td>PD(^a)</td>
<td>95.11</td>
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<td>95.11</td>
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<td>90.70</td>
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<td>PI</td>
<td>5.44</td>
<td>3.37</td>
<td>5.57</td>
</tr>
</tbody>
</table>

\(^a\) Inverse scales: i.e., low scores on these scales mean high similarity to the groups of patients from which the scale was derived.
**Table 3**

Intercorrelations of the TSCS Scores and Age of Elderly Women  
(N = 152)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Acu</th>
<th>Tt Fo</th>
<th>Sf-Cr</th>
<th>Xo Cf</th>
<th>Tt Cf</th>
<th>Id</th>
<th>Sr-Sa</th>
<th>Shen</th>
<th>Ph Se</th>
<th>Xc So</th>
<th>Ps Ef</th>
<th>Fa Sf</th>
<th>So Sf</th>
<th>Tt Va</th>
<th>Co Va</th>
<th>So Va</th>
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<tr>
<td>Sf-Cr</td>
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<td>-.23**</td>
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<td>-.16**</td>
<td>-.23**</td>
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<td>-.17**</td>
<td>-.27**</td>
<td>-.19**</td>
<td>-.62**</td>
<td>-.59b</td>
<td>-.06</td>
<td>-.31b</td>
<td>-.24**</td>
</tr>
</tbody>
</table>

*Inverse scales: i.e., low scores on these scales mean high similarity to the group from which the scale was derived.

*Spuriously higher because of overlapping items.

*P < .05. **P < .01.
Table 4
Means and Standard Deviations of the Total Positive Self-Concept Score of Elderly Women Grouped According to Age

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>66-69 Years Old</td>
<td>35</td>
<td>376.48</td>
<td>30.51</td>
</tr>
<tr>
<td>70-79 Years Old</td>
<td>109</td>
<td>380.97</td>
<td>23.83</td>
</tr>
<tr>
<td>80-89 Years Old</td>
<td>18</td>
<td>389.33</td>
<td>23.88</td>
</tr>
</tbody>
</table>
Table 5
Analysis of Variance of Self-Concept among Elderly Women
Grouped According to Age

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1962.80</td>
<td>2</td>
<td>981.40</td>
<td>1.519</td>
<td>n.s.</td>
</tr>
<tr>
<td>Within Groups</td>
<td>102699.31</td>
<td>159</td>
<td>645.91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>104662.11</td>
<td>159</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Hypothesis 1 stated that there is a significant negative relation between self-concept and old age. This hypothesis was not confirmed by the findings of this study.

**Self-Concept and Marital Status**

The subjects were grouped according to their marital status—single, divorced, widowed, and married with their husbands still living. The group means and standard deviations of the Total Positive Score are presented in Table 6. A one-way analysis of variance showed no significant variation ($F = 0.833, df = 3, 158, n.s.;$ confer Table 7).

Thus the results of the study give no indication that marital status significantly affects self-concept, at least among elderly women.

**Self-Concept and Education**

The subjects were also grouped according to their education level into the following categories: (1) no schooling, (2) grammar school attended, (3) grammar school finished, (4) high school attended, (5) high school completed, and (6) college attended or graduated. The group means show a steady increase in self-concept from no schooling to college education (confer Table 8). A one-way analysis of variance was performed (see Table 9). There was no statistical significance ($F = 1.449, df = 5, 156, n.s.$).

Thus the findings of this study do not present any evidence that past education influences the self-concept of elderly women to a considerable degree.

**Part II: Altruism**

The second and third hypotheses were investigated by analyzing the data obtained from the High, Middle, and Low Self-Concept Groups placed in the three social influence conditions. Means and standard deviations
### Table 6

Means and Standard Deviations of the Total Positive Self-Concept Score of Elderly Women Grouped According to Marital Status

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>18</td>
<td>372.39</td>
<td>30.49</td>
</tr>
<tr>
<td>Married (Living With Husbands)</td>
<td>22</td>
<td>384.32</td>
<td>20.10</td>
</tr>
<tr>
<td>Divorced</td>
<td>15</td>
<td>380.47</td>
<td>24.50</td>
</tr>
<tr>
<td>Widowed</td>
<td>107</td>
<td>381.69</td>
<td>25.77</td>
</tr>
</tbody>
</table>
Table 7

Analysis of Variance of Self-Concept among Elderly Women
Grouped According to Marital Status

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1630.90</td>
<td>3</td>
<td>543.63</td>
<td>.833</td>
<td>n.s.</td>
</tr>
<tr>
<td>Within Groups</td>
<td>103095.06</td>
<td>158</td>
<td>652.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>104725.94</td>
<td>161</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 8
Means and Standard Deviations of the Total Positive Self-Concept Score of Elderly Women Grouped According to Education

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Education</td>
<td>11</td>
<td>372.91</td>
<td>11.86</td>
</tr>
<tr>
<td>Grammar School, Incomplete</td>
<td>50</td>
<td>376.66</td>
<td>28.16</td>
</tr>
<tr>
<td>Grammar School, Completed</td>
<td>42</td>
<td>379.17</td>
<td>21.11</td>
</tr>
<tr>
<td>High School, Incomplete</td>
<td>17</td>
<td>382.94</td>
<td>30.21</td>
</tr>
<tr>
<td>High School, Completed</td>
<td>29</td>
<td>387.79</td>
<td>25.54</td>
</tr>
<tr>
<td>College, Attended or Graduated</td>
<td>13</td>
<td>391.54</td>
<td>26.88</td>
</tr>
</tbody>
</table>
Table 9

Analysis of Variance of Self-Concept among Elderly Women

Grouped According to Education

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4647.50</td>
<td>5</td>
<td>929.50</td>
<td>1.449</td>
<td>n.s.</td>
</tr>
<tr>
<td>Within Groups</td>
<td>100078.50</td>
<td>156</td>
<td>641.53</td>
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</tr>
<tr>
<td>Total</td>
<td>104726.00</td>
<td>161</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


of the nine subgroups are presented in Table 10. The subjects chose to share $39.69 on the average. However, as a large sample standard deviation (29.24) indicates, they varied greatly in their choices. Self-concept group means lined up in the predicted direction, that is the High Self-Concept Group was most altruistic, and the Low Self-Concept Group was least altruistic. There was but a slight intergroup difference between standard deviations. Social influence condition means also lined up in the predicted direction. Subjects in positive influence condition were slightly more altruistic than subjects in no-influence condition and significantly more altruistic than subjects in negative influence condition. Again, there was but a slight difference between standard deviations among the conditions. The subgroup means of all three self-concept groups (HP, HNo, HNe; MP, MNo, MNe; LP, LNo, LNe) and of two conditions (HP, MP, LP; HNe, MNe, LNe) lined up in the predicted direction. Among subgroups, HP was most altruistic, with relatively small standard deviation. The HNo subjects were second in altruism, with a standard deviation slightly below that of the total sample. Then there were the MP and LNo subgroups, both with the $41.11 average, with the scores more scattered in the former and more concentrated in the latter than in the total sample. The three subgroups in negative condition present an interesting combination. The means of the subgroups are far below the total sample's average. The MNe subgroup's score distribution is greatest and the HNe subgroup's distribution is smallest in the whole sample. The remaining subgroups, MNo and LP, are below the average as far as their means and standard deviations are concerned.

An analysis of variance for a 3x3 factorial design showed a significant main effect of self-concept (F = 9.14, df = 2, 153, p < .01), a significant
Table 10
Means and Standard Deviations of Altruistic Behavior
of Elderly Women in a 3 x 3 Factorial Design
(in each cell, N = 18)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Social Influence</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Posit.</td>
<td>No</td>
<td>Negat.</td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Self-Concept</td>
<td>Social Influence</td>
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<td></td>
</tr>
<tr>
<td>High</td>
<td>Mean</td>
<td>69.44</td>
<td>56.11</td>
<td>30.00</td>
<td>51.85</td>
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<tr>
<td>SD</td>
<td>21.00</td>
<td>28.31</td>
<td>15.34</td>
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<td>27.34</td>
</tr>
<tr>
<td>Middle</td>
<td>Mean</td>
<td>41.11</td>
<td>36.11</td>
<td>31.67</td>
<td>36.30</td>
</tr>
<tr>
<td>SD</td>
<td>31.42</td>
<td>25.70</td>
<td>33.82</td>
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<td>30.18</td>
</tr>
<tr>
<td>Low</td>
<td>Mean</td>
<td>27.22</td>
<td>41.11</td>
<td>24.44</td>
<td>30.93</td>
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<td>SD</td>
<td>22.93</td>
<td>26.54</td>
<td>28.12</td>
<td></td>
<td>26.44</td>
</tr>
<tr>
<td>Total Column</td>
<td>Mean</td>
<td>45.93</td>
<td>44.44</td>
<td>28.70</td>
<td>39.69</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>30.62</td>
<td>27.72</td>
<td>26.57</td>
<td>29.24</td>
</tr>
</tbody>
</table>
main effect of social influence ($F = 7.05, \text{df} = 2, 153, p < .01$), and their interaction ($F = 2.98, \text{df} = 4, 153, p < .05$; confer Table 11).

The two main effects and the interaction were further analyzed by means of the Duncan's Multiple Range test. Significant mean differences were found between the altruistic choices of High and Low, and High and Middle Self-Concept Groups, but not between the choices of Middle and Low Self-Concept Groups (see Table 12). Significant mean differences were also found between the altruistic choices of subjects placed in negative and positive, and negative and no-influence conditions, but not in positive and no-influence conditions (confer Table 13). The interaction between self-concept and social influence affected altruistic behavior in the following way (confer Table 14). The HP subgroup was found to be significantly more altruistic than MP, LP, MNo, LNo, HNe, MNe, and LNe subgroups; and the HNo subgroup was significantly more altruistic than LP, MNo, HNe, MNe, and LNe subgroups.

Hypothesis 2 states that subjects with a more positive self-concept exhibit altruistic behavior to a significantly greater degree than subjects with a less positive self-concept. This hypothesis was confirmed, first of all, because there is a statistically significant main effect of self-concept, and secondly, because there are significant mean differences between High and Low, and between High and Middle Self-Concept scorers.

The results of this study clearly indicate that social influence affects altruistic behavior. There is a statistically significant main effect of social influence on altruism. Moreover, all mean differences of social influence groups are in the predicted direction. However, the third hypothesis is more specific. It states that (1) subjects in positive
Table 11
Analysis of Variance of 3 x 3 Factorial Design
on Altruistic Behavior

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Concept (SC)</td>
<td>12756.79</td>
<td>2</td>
<td>6378.39</td>
<td>9.14**</td>
</tr>
<tr>
<td>Social Influence (SI)</td>
<td>9838.27</td>
<td>2</td>
<td>4919.13</td>
<td>7.05**</td>
</tr>
<tr>
<td>SC X SI Interaction</td>
<td>8328.39</td>
<td>4</td>
<td>2082.10</td>
<td>2.98*</td>
</tr>
<tr>
<td>Error</td>
<td>106755.10</td>
<td>153</td>
<td>697.75</td>
<td></td>
</tr>
</tbody>
</table>

Total                        | 137678.55 | 161|        |        |

** p < .01
* p < .05
Table 12
Altruism Mean Differences between High, Middle, and Low Self-Concept Groups
(in each group, \( N = 54 \))

<table>
<thead>
<tr>
<th>Group</th>
<th>Self-Concept</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Low</td>
<td>30.93</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>36.30</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>51.85</td>
</tr>
</tbody>
</table>

**significant at .01 level (shortest significant ranges, \( R_2 = 13.08 ; R_3 = 13.63 \)).
Table 13

Altruism Mean Differences between Groups in Social Positive, Negative, and No-Influence Conditions

(in each group, \( N = 54 \))

<table>
<thead>
<tr>
<th>Group</th>
<th>Social Influence</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Negative</td>
<td>No-Influence</td>
<td>Positive</td>
</tr>
<tr>
<td>Social Influence</td>
<td>28.70</td>
<td>15.74**</td>
<td>17.23**</td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>28.70</td>
<td>15.74**</td>
<td>17.23**</td>
<td></td>
</tr>
<tr>
<td>No-Influence</td>
<td>44.44</td>
<td>15.74**</td>
<td>17.23**</td>
<td>1.49</td>
</tr>
<tr>
<td>Positive</td>
<td>45.93</td>
<td>15.74**</td>
<td>17.23**</td>
<td>1.49</td>
</tr>
</tbody>
</table>

** significant at .01 level (shortest significant ranges, \( R_2 = 13.08 \);
\( R_3 = 13.63 \)).
Table 14

Altruism Mean Differences between Subgroups

in a 3 x 3 Factorial Design

(in each subgroup, N = 18)

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>LNe 24.44</th>
<th>LP 27.22</th>
<th>HNe 30.00</th>
<th>MNe 31.67</th>
<th>MNo 36.11</th>
<th>MPO 41.11</th>
<th>LNO 41.11</th>
<th>HNO 56.11</th>
<th>HP 69.44</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>27.22</td>
<td>30.00</td>
<td>31.67</td>
<td>36.11</td>
<td>41.11</td>
<td>41.11</td>
<td>56.11</td>
<td>69.44</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.78</td>
<td>5.56</td>
<td>7.23</td>
<td>11.67</td>
<td>16.67</td>
<td>16.67</td>
<td>31.67**</td>
<td>45.00**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7.23</td>
<td>5.56</td>
<td>2.78</td>
<td>8.89</td>
<td>13.89</td>
<td>13.89</td>
<td>28.89**</td>
<td>42.22**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.67</td>
<td>6.11</td>
<td>11.11</td>
<td>11.11</td>
<td>26.11**</td>
<td>39.44**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.44</td>
<td>9.44</td>
<td>9.44</td>
<td>24.44*</td>
<td>37.77**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.00</td>
<td>5.00</td>
<td>20.00*</td>
<td>33.33**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.00</td>
<td>15.00</td>
<td>28.33**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15.00</td>
<td>28.33**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** significant at .01 level (shortest significant ranges, R₂ = 22.70; R₃ = 23.65; R₄ = 24.30; R₅ = 24.78; R₆ = 25.17; R₇ = 25.49; R₈ = 25.76; R₉ = 25.99).

* significant at .05 level (R₂ = 17.27; R₃ = 18.18; R₄ = 18.80; R₅ = 19.24; R₆ = 19.60; R₇ = 19.89; R₃ = 26.14; R₉ = 26.34).
social influence condition exhibit significantly more altruistic behavior than subjects in no-influence condition, and (2) subjects in negative social influence condition exhibit significantly less altruistic behavior than subjects in no-influence condition. The findings of this study confirm the second part of the hypothesis, but not the first. Elderly women in negative social influence condition were significantly less altruistic than their counterparts in no-influence condition. However, elderly ladies in positive social influence condition were not significantly more altruistic than the ladies in no-influence condition.

Age and Altruism

The means and standard deviations of altruistic choices of subjects grouped according to age were calculated (confer Table 15). With increased age, group means increased and standard deviations decreased. Analysis of variance yielded no statistical significance ($F = .33, df = 2, 159, n.s.$; confer Table 16). Results of a correlational procedure confirmed the findings. No correlation between age and altruism is found in the total sample ($r = -.01, df = 160, n.s.$).
Table 15
Means and Standard Deviations of Altruism Scores
of Elderly Women Grouped According to Age

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>66-69 Years Old</td>
<td>35</td>
<td>36.57</td>
<td>33.78</td>
</tr>
<tr>
<td>70-79 Years Old</td>
<td>109</td>
<td>39.91</td>
<td>29.61</td>
</tr>
<tr>
<td>80-89 Years Old</td>
<td>18</td>
<td>43.33</td>
<td>16.80</td>
</tr>
</tbody>
</table>
Table 16

Analysis of Variance of Altruism among Elderly
Women Grouped According to Age

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>582.11</td>
<td>2</td>
<td>291.05</td>
<td>0.33</td>
<td>n.s.</td>
</tr>
<tr>
<td>Within Groups</td>
<td>138286.06</td>
<td>159</td>
<td>869.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>138868.17</td>
<td>161</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The purpose of this investigation was to test three hypotheses: the first, the relationship between self-concept and old age; the second, altruism as a function of self-concept; and the third, the effect of social influence upon altruistic behavior. The first hypothesis was not confirmed. The results were in the opposite direction, although statistically not significant. The second hypothesis was fully supported. The third hypothesis was partly confirmed. Results are discussed in this chapter.

Part I: Self-Concept

The Self-Image of Elderly Women

The TSCS scores of the sample reflect the following self-image of elderly women. They view themselves much more positively than people on the average as judged from the TSCS normative scores (confer Table 1 which reveals all mean differences between the sample and the normative group to be statistically significant except for General Maladjustment). Their feelings of what they are, how they behave, and their self-satisfaction are evenly balanced. They are considerably more self-satisfied than people on the average. Their view of their Moral Self is brightest; Family Self comes next, whereas their Physical Self is lowest.

The elderly women are somewhat less self-critical and more defensive covertly than people on the average. They tend slightly less toward neurosis and personality disorder. However, they are weaker in personality integration and psychosis.

The elderly women's manner of responding to the TSCS was as follows.
They used many extreme responses ("completely true," and "completely false") and slightly more affirmative ("true") statements. Whereas they had a tendency to overaffirm their positive attributes, the normative sample tended to overdeny their negative attributes. In their responses, elderly women were much more definite, less conflicting, and slightly more consistent than people on the average.

To sum up: the elderly women presented a rather favorable self-image, quite comparable to the norm's self-concept, in some respects superior, in others less agreeable.

When considering the sample's representativeness, the following characteristics of its subjects must be kept in mind: (1) economical independence, (2) health, and (3) voluntary participation. All subjects volunteered for this study. At the time of investigation, they lead rather independent lives as tenants in low income senior housing projects. Moreover, most of them were substantially healthy.

With due caution, these limitations of representativeness are mentioned here. Still there are signs that self-concept, such as described above, may pertain to old women from different populations. A self-concept, quite similar to this one both in its totality and in detail, has been found among community female residents and nursing home female residents in the unpublished Vanderbilt study (Thompson, 1971). Their Total Positive Scores were 370.8 and 372.4, respectively.

Finally, individual differences should not be forgotten either. In the present study, the Total Positive Score ranged from 285 to 430 with a mean of 380.89 and a standard deviation of 25.51. The division of the total sample into High, Middle, and Low Self-Concept Groups aids to understand
various subscale differences pertaining to different self-concept levels. For this, see the following sections.

Factors Related to an Increase of Self-Concept

One and the same result stands out now in, at least, four studies which have assessed self-concept of old people by this multi-dimensional method, the TSCS. All four studies (Grant, 1966; the present study, and two recent investigations that came to the author's attention after his research has been completed: Postema, 1970, and the Vanderbilt study reported by Thompson, 1971) show that the self-concept of elderly people is higher than the normative sample's. In her cross-sectional study, Grant (1966) found the increase in self-concept factors in old age to be statistically significant.

What makes old people possess, or rather report, such a positive self-concept? Grant (1969) proposed three probable internal reasons: (1) a view of aging as a "desirable stage of life," (2) a tendency toward denial, and (3) "a need to expand continually one's horizons (p. 717)." The first and the third reasons were theoretical. For the second reason, Grant presented evidence, namely, the finding in her study that in old age, with an increase of self-concept, there is an increase in denial.

Grant's evidence is based on the comparison of 60-69 year old group with other adult groups. The present study has found evidence that among the 65-89 year old people, with the increase of self-concept, there is an increase of denial, namely that high self-concept scorers have higher defensiveness than low self-concept scorers.

Defensiveness

According to the TSCS manual (Fitts, 1965), there are two TSCS subscales of defensiveness: the Self-Criticism scale for overt defensiveness, and the
Defensive Positive scale for subtle defensiveness. The relationship between Self-Criticism and Grant's (1966) denial is apparent. Her 8-item denial factor includes seven items from the TSCS Self-Criticism scale.

The present study found: (1) an increase of defensiveness together with an increase of self-concept among the aged as compared with the normative sample, and (2) an increase of defensiveness together with an increase of self-concept among the different levels of self-concept of the aged. The first finding confirms Grant's discovery. The second finding extends it within the old population.

First, as compared with the norm, the old women in this study were found to possess not only higher self-concept, but also higher Defensive Positive Score and lower Self-Criticism. The DP sample mean is 74.20; the norm's, 54.40. The SC sample mean is 28.06; the norm's, 35.54. Significantly lower Self-Criticism (t = 11.33, df = 785, p < .01) and higher Defensive Positive (t = 25.71, df = 785, p < .01) scores indicate higher overt and subtle defensiveness in the sample, as compared with the norm.

Secondly, within the sample itself, Self-Criticism correlated negatively with the Total Positive Score (r = 1.23, df = 160, p < .01). However, the comparison of High, Middle, and Low Self-Concept group means showed a lack of clear-cut linear relationship (27.28, 25.56, and 31.35, respectively). Still, analysis of variance indicated significant mean differences (F = 9.056, df = 2, 159, p < .01; see Table 17). Duncan's Multiple Range test found a statistically significant mean difference even between the two outer groups, the High and the Low Self-Concept scorers. Thus higher self-concept scorers were found to be significantly less self-critical than lower self-concept scorers.
Table 17

Analysis of Variance of Self-Criticism
of High, Middle, and Low Self-Concept Scorers

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>956.90</td>
<td>2</td>
<td>478.45</td>
<td>9.056**</td>
</tr>
<tr>
<td>Within Groups</td>
<td>8400.47</td>
<td>159</td>
<td>52.83</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9357.37</td>
<td>161</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** $p < .01$
Again, within the sample, the Defensive Positive Score correlated positively with the Total Positive Score \( (r = .67; \, df = 160, \, p < .01) \). The High, Middle, and Low Self-Concept group means reflected a linear relationship (82.15, 76.96, and 63.50, respectively) and analysis of variance indicated statistical significance between groups \( (F = 58.361, \, df = 2, \, 159, \, p < .01; \) confer Table 18). Thus higher self-concept scorers were found to be overtly more defensive than lower self-concept scorers.

To sum up, with the increase of self-concept in old age, at least among women, there is an increase of overt and covert defensiveness. When compared among themselves, old women with higher self-concept tend to be more defensive than their counterparts with lower self-concept (for total defensiveness rank order of the High, Middle, and Low Self-Concept Groups, see Table 19).

**General Personality Integration**

In the analysis of the sample's TSCS subscores, there emerged another global characteristic which may be called general personality integration. To assess this characteristic four TSCS subscales were employed: (1) Personality Integration, (2) General Maladjustment, (3) Total Variability, and (4) Total Conflict.

According to the TSCS manual, General Maladjustment is "a general index of adjustment-maladjustment (Fitts, 1965, p. 5);" Total Variability is an indicator of self-concept's unity, consistency, and integration, especially a certain range for "well-integrated people (p. 3);" and Total Conflict reveals a degree of conflict or its absence in self-perception. The Personality Integration Score shows how many of the 25 items the subject chooses which differentiate the PI group from other groups. Although this
Table 18
Analysis of Variance of the Defensive Positive Scores
of High, Middle, and Low Self-Concept Scorers

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>10005.99</td>
<td>2</td>
<td>5003.00</td>
<td>58.361**</td>
</tr>
<tr>
<td>Within Groups</td>
<td>13630.16</td>
<td>159</td>
<td>85.72</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>23636.15</td>
<td>161</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** p < .01
Table 19

Total Defensiveness Rank Order of

High, Middle, and Low Self-Concept Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Defensiveness</th>
<th>Total Rank Order</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overt</td>
<td>Covert</td>
</tr>
<tr>
<td>High Self-Concept</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Middle Self-Concept</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Low Self-Concept</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>
score may be of value, it is insufficient to encompass general personality integration because: (1) the TSCS manual itself points to other TSCS scores as indicators of personality integration and adjustment; (2) the four subscales mentioned above cover a more extensive integration area than the PI Score by itself; (3) there is some doubt as to the representativeness of the PI group which has been described by the manual as "composed of 75 people, who by a variety of criteria, were judged as average or better in terms of level of adjustment or degree of personality integration (Fitts, 1965, p. 5);" it is at least doubtful whether a PI group should include "average" people; and (4) the PI sole usefulness, at least in the case of old subjects, is doubtful; the sample's conflicting results (see the section below) very likely point to a necessity for a special old-age PI group. Consequently, four subscales are employed in the analysis of the relationship between general personality integration and self-concept.

The sample's Total Positive Score positively correlated with its inverse General Maladjustment Score ($r = .87, \overline{df} = 160, p < .01$). According to the TSCS manual, there is an overlap of items between the two scores. This fact makes the high positive correlation somewhat suspect. The observation of the High, Middle, and Low Self-Concept group means (108.65, 101.50, and 94.13, respectively; confer Table 2 for their extremely small SDs) and an analysis of variance which is not affected by the item overlap ($F = 112.51, \overline{df} = 2, 159, p < .01$; see Table 20) confirm the finding that high self-concept scorers tend to be better adjusted than low self-concept scorers.

According to the TSCS manual, the Total Variability Score that falls within the range of 48 and 20 indicates a self-concept of well-integrated people. Now, only the High Self-Concept group mean is within this range,
Table 20
Analysis of Variance of General Maladjustment
of High, Middle, and Low Self-Concept Scorers

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>5691.69</td>
<td>2</td>
<td>2845.85</td>
<td>112.51**</td>
</tr>
<tr>
<td>Within Groups</td>
<td>4021.90</td>
<td>159</td>
<td>25.29</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9713.59</td>
<td>161</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** p < .01
and right in the middle with 37.08, exactly where the Personality Integration group mean is (37.04). The Middle and the Low Self-Concept group means fall above the upper range limit. The $F$ ratio between the group means is significant ($F = 33.570$, $df = 2, 159$, $p < .01$; confer Table 21). There is a statistically significant negative correlation between the sample's Total Positive Score and Total Variability ($r = -.47$, $df = 160$, $p < .01$). These results indicate that high self-concept scorers are less variable and more integrated than the low self-concept scorers.

There is a linear decrease in Total Conflict with a linear increase of self-concept (High Self-Concept Group scored 22.17 in Total Conflict; Middle, 26.63; and Low, 35.67). Analysis of variance indicates significant mean difference ($F = 19.268$, $df = 2, 159$, $p < .01$; confer Table 22). A statistically significant negative relation ($r = -.49$, $df = 160$, $p < .01$) points out that high self-concept scorers possess less conflict in their self-perception than low self-concept scorers.

The Personality Integration Scores are discussed last because they present some problems whose probable solution presupposes the knowledge of the results just mentioned. In the sample, the PI Score is negatively correlated with the Total Positive Score ($r = -.20$, $df = 160$, $p < .01$). The Low Self-Concept group mean (7.20) is within the normal range limit of personality integration (6.00) while the Middle and High Self-Concept Groups are just below the limit (5.57 and 5.44, respectively). Analysis of variance shows some statistically significant difference between the group means ($F = 4.195$, $df = 2, 159$, $p < .05$; confer Table 23). These results indicate that Low Self-Concept Group chose significantly more PI items than the High Self-Concept Group.
Table 21

Analysis of Variance of the TSCS Total Variability of High, Middle, and Low Self-Concept Scorers

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>6572.83</td>
<td>2</td>
<td>3286.41</td>
<td>33.570**</td>
</tr>
<tr>
<td>Within Groups</td>
<td>15565.82</td>
<td>159</td>
<td>97.90</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>22138.65</td>
<td>161</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**p < .01
Table 22

Analysis of Variance of the TSCS Total Conflict of High, Middle, and Low Self-Concept Scorers

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>5109.05</td>
<td>2</td>
<td>2554.53</td>
<td>19.268**</td>
</tr>
<tr>
<td>Within Groups</td>
<td>21079.96</td>
<td>159</td>
<td>132.58</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>26189.01</td>
<td>161</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** p < .01
Table 23
Analysis of Variance of Personality Integration
of High, Middle, and Low Self-Concept Scorers

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>103.81</td>
<td>2</td>
<td>51.91</td>
<td>4.195*</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1967.28</td>
<td>159</td>
<td>12.37</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2871.09</td>
<td>161</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* $p < .05$
Other findings cast some doubt as to the applicability of the PI subscale to the aged. One would expect a positive correlation between the PI Score and inverse General Maladjustment. However, no correlation was found ($r = -.06, df = 160, n.s.$). Moreover, the High Self-Concept Group which was judged to be very well integrated according to the Total Variability range was not found normal on the PI subscale whereas the Low Self-Concept Group which was judged not to be normal according to the Total Variability range was discovered as normal on the PI subscale. These inconsistencies are the basis for the caution not to use the PI Score alone, especially because of the doubt as to the general representativeness of the PI group.

Consequently, in order to treat personality integration in its various aspects and to avoid the possibility of error, the four subscales have been employed in this study. As compared with the Low Self-Concept Group, the High Self-Concept Group was found to be better adjusted according to the General Maladjustment Scores, more self-consistent according to the Total Variability Scores, with less conflict in self-perception according to the Total Positive Scores, yet less personally integrated according to the Personality Integration Scores. The total rank order of general personality integration is as follows: the High Self-Concept Group, the Middle Self-Concept Group, and the Low Self-Concept Group (see Table 24).

**Defensiveness and Integration**

Personality integration is positive. Defensiveness is considered by many as negative. How is it possible to reconcile the presence of the two apparently contradictory characteristics in old people with high self-concept?

It can be suggested that defensiveness is not a negative reaction in old age. When decrease of life strength, disengagement, and death itself are
Table 24

General Personality Integration Rank Order
of High, Middle, and Low Self-Concept Groups

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<th>Group</th>
<th>Personality Integration</th>
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<tr>
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threatening, a higher degree of defensiveness could indicate good adjustment and higher integration.

Similarly, reminiscing of the past was considered by many as a negative escape from reality. However, there is some indication that reminiscence is related to positive factors in old age. Thus frequency of reminiscing was found to correlate positively with higher survival rate and negatively with greater depression (McMahon & Rhudick, 1964). Postema (1970) found "well-adjusted" reminiscing among high self-concept scorers and "conflict" reminiscing among low self-concept scorers.

Evidence seems to indicate that higher integrative tendencies and stronger defenses are operative in high self-concept scorers than in low self-concept scorers. As yet it still remains only suggested, not confirmed that these tendencies actually increase self-concept in old age. Yet it is more likely that inner factors such as the two tendencies do increase the self-concept than outer factors such as past education or present marital status which in this study have been found not to correlate positively with self-concept at all.

At present, one can only say that these inner tendencies are found in a higher degree among old people with relatively high self-concept than among those whose self-concept is low. Again, this is true more of the rather healthy, independently living, more or less self-sufficient old people, women in particular. There is very little evidence in their reported self-concept for Buhler's (1935) postulated regression in old age, except a decrease in Physical Self.

Defensiveness and an attempt at integration may be an adaptive twofold reaction to demands in the final stage of life. A more positive self-concept
could actually be the result of the two tendencies.

Part II: Altruism

The Effect of Self-Concept

The hypothesis was confirmed that older people with relatively higher self-concept exhibit more altruistic behavior than those with lower self-concept. Figure 1 illustrates the main effect of self-concept on altruism. The High, Middle, and Low Self-Concept Groups line up in the predicted direction. The High Self-Concept Group chose to share significantly more than the Middle Self-Concept Group; and even to a greater degree more than the Low Self-Concept Group. The Middle Self-Concept Group chose to share slightly, but statistically not significantly, more than the Low Self-Concept Group.

The discovery of defensive and integrative tendencies in various self-concept groups may be applied as a partial explanation of the group's differences in altruism. A High Self-Concept with high defensive and integrative tendencies apparently increases altruistic behavior to a significantly greater degree than a Middle Self-Concept with high defensive but relatively lower integrative tendencies, or a Low Self-Concept with relatively low defenses and integration.

It may be quite surprising that the difference between altruistic behavior of the Middle and the Low Self-Concept Groups is statistically not significant. In fact, there is a considerable difference, not so much in the degree of sharing as in the range of that degree of sharing over social influence conditions. However, this observation leads one to the discussion of interaction between self-concept and social influence.

A brief mention of the "pure" effect of self-concept on altruism is in
Fig. 1. The relation of self-concept to altruistic behavior
order at this point. This effect is obtained in the no-influence condition. Here the High Self-Concept Group shared significantly more than the two lower groups (confer Tables 10 and 14). Again, this fact showed the altruistic superiority of the High Self-Concept Group. However, the Middle Self-Concept Group was slightly less altruistic than the Low Self-Concept Group. Since the only statistically significant altruistic increase was observed in the group that differed from the other groups in higher integration, a special function of personality integration in altruistic behavior may be suggested. This special function may be in combination with other factors or by itself. At this time this is impossible to decide.

The Effect of Social Influence

The hypothesis concerning the effect of social influence on altruism was based on the assumption that each social influence condition has a different motivational potential. The positive influence condition possesses a twofold motivational potential—toward conformity and toward publicity. The no-influence condition is with no motivational potential of its own. The negative influence condition has an anti-altruistic potential of conformity.

Social influence had a main effect on altruism (see Table 11 and Figure 2). However, the hypothesis was more specific. It predicted statistically significant difference between each pair of adjacent conditions. The difference was found between lower adjacent conditions, but not between upper adjacent conditions, although even in the latter case the results were in the predicted direction.

A general explanation of the results is based on the observation of the subgroup mean ranges in each condition. The range of the subgroup means
Fig. 2. The relation of social influence to altruistic behavior
in negative condition has been found to be very narrow, from 24.44 to 31.67, whereas in no-influence and in positive conditions the ranges are much greater (36.11-56.11, 27.22-69.44, respectively). Negative influence condition is seen to have a "freezing" effect on altruistic behavior whereas the other conditions allow for a greater variety of responses among subgroups. Further explanation is based on the interaction between social influence and self-concept.

**Interaction between Self-Concept and Social Influence**

A statistically significant interaction has been found between self-concept and social influence on altruism. Appropriate subgroup mean ranges show what responsiveness the self-concept groups have and what effect the social influence conditions produce.

Among the self-concept groups (see Figure 3), the High Self-Concept subgroup means have the widest range, from 30.00 to 69.44. The Middle and the Low Self-Concept subgroup mean ranges do not differ much (31.67-41.11; 24.44-41.11, respectively). This means that the High Self-Concept Group was widely responsive to social influence conditions whereas the other two groups were not as much responsive. The results point to the greater sensitivity of High Self-Concept scorers to social influence. As a probable reason for this greater sensitivity, one may suggest high self-concept itself, high defensive and integrative tendencies, or their combination.

Among the social influence conditions (see Figure 4), the positive condition elicited the widest subgroup mean range. Next was the no-influence condition. The negative influence condition had a very small subgroup mean range. The differences reflect the hierarchy of the motivational potential that each condition has.
Fig. 3. Interaction between self-concept and social influence affecting altruistic behavior (lines indicate self-concept groups).
Fig. 4. Interaction between social influence and self-concept affecting altruistic behavior (lines indicate social influence groups).
Still, most revealing is the analysis of the subgroup means. First, in the HP cell both the highest sensitivity of the High Self-Concept scorers and the strongest potential of the positive social influence condition meet to produce the highest cell mean score in altruistic behavior (69.44). In the positive social influence condition, the Middle and the Low Self-Concept subgroups are not as responsive. The MP and the LP cells very likely would produce about even altruistic means, except for the fact that the MP subgroup is slightly more defensive and more integrating. The higher degree in these tendencies probably accounts for the fact that the MP subgroup has a higher, although not statistically significant score than the LP subgroup.

The no-influence condition has been described in the previous section of this chapter. In the negative social influence condition, a freezing point is reached. The HNe, MNe, and LNe subgroups scored about equally in altruism. Apparently the counter-altruistic imitation potential was just too much, even for the High Self-Concept subgroup. In this condition, the HNe subgroup did not differ from the other two subgroups. Elderly women, even those apparently with greater personality integration, tended to succumb to the temptation to keep money when a secret opportunity offered itself, especially when they had an excuse that other old people do likewise.

The importance of social support for altruistic behavior is manifested in both the High and the Middle Self-Concept scorers. There is a tendency (statistically significant in the High Self-Concept Group) to be more altruistic in no-influence but especially in positive influence condition. This tendency constitutes the over-all main effect of social influence. It is not so evident among the Low Self-Concept scorers. However, even they chose to give least in the negative condition just as the other two groups
did. These results show a very forceful negative effect of this anti-altruistic condition. Once the social support of the positive condition and the flexible neutral situation of the no-influence condition is exchanged for the anti-altruistic conformity condition, subjects with the same High and Middle Self-Concept levels become considerably less generous. The effect found in this study on a small scale is not unlike the dehumanizing effect of concentration camps in which the positive social support is totally removed and replaced by inhuman treatment forcing one to conform (Bettelheim, 1943; Schein, 1957).

The negative influence affects all self-concept groups equally. However, positive social support influences significantly only the High Self-Concept scorers and to a lesser extent Middle Self-Concept scorers. Since the two groups differ from the Low Self-Concept Group in higher level of self-concept, of defensiveness, and of personality integration, it may be suggested that either of these factors or their combination affects the difference in altruistic behavior.

Conclusion

The findings of this study present some evidence that altruistic behavior is the result of both internal and external factors, of personality and situational variables. Three levels of self-concept were found to affect altruistic sharing of elderly women. The highest self-concept groups chose to share more than the other two groups. Social influence conditions also affected altruistic behavior. The negative condition elicited significantly less altruism than the other two.

High Self-Concept scorers were most altruistic and most sensitive to social influence. Middle Self-Concept scorers were somewhat less altruistic
and less sensitive to social influence. Low Self-Concept scorers were least altruistic and their responses to social influence were least predictable.

Altruistic behavior of the self-concept groups was affected in a more pronounced way by positive social influence condition than the other two conditions. No-influence condition appeared to exercise no effect. Negative influence condition produced a "freezing" effect on all self-concept groups. In this condition, all chose to share least.

The findings indicate the importance of positive social support. The efficacy of positive social support, however, depends on the level of self-concept. The High Self-Concept scorers and, to a lesser extent, the Middle Self-Concept scorers are affected by it whereas the Low Self-Concept scorers seem not to be influenced by it.

It is suggested that, besides the level of self-concept, the levels of defensive and integrative tendencies related to and combined with self-concept respond to social influence and affect altruistic behavior.
A survey of recent literature showed very few studies on the self-concept of the aged and none on their altruistic behavior. This study attempted (a) to assess their self-concept in relation to old age, and (b) to investigate their altruistic behavior in relation to self-concept and social influence.

It was hypothesized that (1) there is a negative correlation between self-concept and old age; (2) subjects with high self-concept exhibit more altruistic behavior than those with low self-concept; and (3) subjects in positive social influence condition exhibit more altruistic behavior than those in no-influence condition, and the subjects in no-influence condition exhibit more altruistic behavior than those in negative social influence condition.

The Tennessee Self-Concept Scale was administered to 162 elderly women living in a low income senior housing project. The first hypothesis was not confirmed. There was no negative correlation between self-concept and old age. To test other hypotheses, a 3 x 3 factorial design was employed. Each subject was presented a lottery ticket and asked to indicate the amount he would share with others in case he wins $100.00. The subjects were divided into the High, Middle, and Low Self-Concept Groups according to their TSCS Total Positive Score. One third of each group was randomly placed into one of the three social influence conditions, positive, negative, or no-influence. The three conditions were effected by the instructions of the experimenter.

Analysis of variance indicated: (a) a statistically significant main effect of self-concept; (b) a significant main effect of social influence;
and (c) a significant interaction between self-concept and social influence. The second hypothesis was supported because the High Self-Concept Group exhibited more altruistic behavior than the two lower groups. The third hypothesis was partly confirmed: (a) the subjects in no-influence condition exhibited significantly more altruistic behavior than those in negative influence condition, but (b) the subjects in positive influence condition did not exhibit significantly more altruistic behavior than those in no-influence condition.

Additional findings showed (a) no statistically significant correlation between self-concept and marital status, (b) no statistically significant correlation between self-concept and past education, (c) no statistically significant correlation between age and altruism, (d) High Self-Concept scorers as more defensive and personally more integrating, (e) the importance of positive social support for altruistic behavior, and (f) the positive social support to be effective only among High Self-Concept scorers and, to a lesser extent, among the Middle Self-Concept scorers.
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APPENDIX A

100 Items

Tennessee Self Concept Scale
TENNESSEE SELF CONCEPT SCALE

Responses

1 - Completely False.
2 - Mostly False.
3 - Partly True, Partly False.
4 - Mostly True.
5 - Completely True.

Items

1. I have a healthy body.
2. I like to look nice and neat all the time.
3. I am an attractive person.
4. I am full of aches and pains.
5. I consider myself a sloppy person.
6. I am a sick person.
7. I am neither too fat nor too thin.
8. I am neither too tall nor too short.
9. I like my looks just the way they are.
10. I don't feel as well as I should.
11. I would like to change some parts of my body.
12. I should have more sex appeal.
13. I take good care of myself physically.
14. I feel good most of the time.
15. I try to be careful about my appearance.
16. I do poorly in sports and games.
17. I often act like I am "all thumbs."
18. I am a poor sleeper.
19. I am a decent sort of a person.
20. I am a religious person.
21. I am an honest person.
22. I am a moral person.
23. I am a bad person.
24. I am a morally weak person.
25. I am satisfied with my moral behavior.
26. I am religious as I want to be.
27. I am satisfied with my relationship to God.
28. I wish I would be more trustworthy.
29. I ought to go to church more.
30. I should not tell so many lies.
31. I am true to my religion in my everyday life.
32. I do what is right most of the time.
33. I try to change when I know I am doing things that are wrong.
34. I sometimes use unfair means to get ahead.
35. I sometimes do very bad things.
36. I have trouble doing things that are right.
37. I am a cheerful person.
38. I have a lot of self-control.
39. I am a calm and easy going person.
40. I am a hateful person.
41. I am a nobody.
42. I am losing my mind.
43. I am satisfied to be just what I am.
44. I am as smart as I want to be.
45. I am just as nice as I should be.
46. I am not the person I would like to be.
47. I despise myself.
48. I wish I did not give up as easily as I do.
49. I can always take care of myself in any situation.
50. I solve my problems quite easily.
51. I take the blame for things without getting mad.
52. I change my mind a lot.
53. I do things without thinking about them first.
54. I try to run away from my problems.
55. I have a family that would always help me in any kind of trouble.
56. I am an important person to my friends and family.
57. I am a member of a happy family.
58. I am not loved by my family.
59. My friends have no confidence in me.
60. I feel that my family does not trust me.
61. I am satisfied with my family relationships.
62. I treat (or treated) my parents as well as I should.
63. I understand my family as well as I should.
64. I am too sensitive to things my family say.
65. I should trust my family more.
66. I should love my family more.
67. I try to play fair with my friends and family.
68. I do my share of work at home.
69. I take a real interest in my family.
70. I quarrel with my family.
71. I give (or gave) in to my parents.
72. I do not act like my family thinks I should.
73. I am a friendly person.
74. I am popular with women.
75. I am popular with men.
76. I am mad at the whole world.
77. I am not interested in what other people do.
78. I am hard to be friendly with.
79. I am as sociable as I want to be.
80. I am satisfied with the way I treat other people.
81. I try to please others, but I don't overdo it.
82. I should be more polite to others.
83. I am no good at all from a social standpoint.
84. I ought to get along better with other people.
85. I try to understand the other fellow's point of view.
86. I see good points in all the people I meet.
87. I get along well with other people.
88. I do not feel at ease with other people.
89. I do not forgive others easily.
90. I find it hard to talk with strangers.

Self-Criticism Scale Items
91. I do not always tell the truth.
92. Once in a while I think of things too bad to talk about.
93. I get angry sometimes.
94. Sometimes, when I am not feeling well, I am cross.
95. I do not like everyone I know.
96. I gossip a little at times.
97. Once in a while, I laugh at a dirty joke.
98. At times I feel like swearing.

99. I would rather win than lose in a game.

100. Once in a while I put off until tomorrow what I ought to do today.
APPENDIX B

Additional Materials
A Keep-Share Choice Card

If I win a 100 dollars, I will

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A TSCS Answer Sheet Used in This Study
(for TSCS Booklet, p. 1)

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The Dissertation submitted by Kestutis A. Trimakas has been read and approved by members of the Department of Psychology.

The final copies have been examined by the director of the Dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the Dissertation is now given final approval with reference to content and form.

The Dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Date 5-22-72

Signature of Advisor