THE DEVELOPMENT OF A MULTIDIMENSIONAL SCALE OF CONTROL

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by
Leigh S. Finkel

UNIVERSITY OF DAYTON
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APPROVED BY:

John J. Korte, Ph.D.
Thesis Chairman

David W. Biers, Ph.D.
Thesis Member

Charles E. Kimble, Ph.D.
Thesis Member

CONCURRENCE:

Kenneth J. Kuntz
Chairman Department of Psychology
Abstract

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Leigh S. Finkel
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Chairman: Dr. J. J. Korte

Locus of control scales have previously deemphasized or omitted focusing on the possible multidimensional nature of perceived control. The need apparently exists for an improved instrument which assesses various dimensions of control. The Multidimensional Scale of Control (MSC) was developed for this purpose and was based on nine hypothesized dimensions. These are: general vs. personal control orientation, the differentiation of perceived external control from other people, from chance factors, and from religious factors, perceived control in benevolent or malevolent situations, perceived control from forces arising within oneself, and an unrealistic internal attitude.

The MSC has 120 true-false items which overlap in nine subscales corresponding to the above dimensions. The scale was administered to 125 undergraduate psychology students, along with the Rotter Internal-External Control Scale, the Adult Nowicki-Strickland Internal-Ex-
ternal Control Scale, and the Marlowe-Crowne Social Desirability Scale. An item analysis and factor analysis were performed on the MSC. In addition, correlations between the MSC subscales and with the previously established measures of control and social desirability were performed. Results indicated that the MSC yields information which is not accessible on other control instruments. The factor analysis yielded three factors which were not easily explainable in terms of the hypothesized dimensions. These could be interpreted in terms of a type of perceived beneficial external control, debilitating external control, and a type of internal orientation. Results are taken as supporting the multidimensional nature of the control construct. Suggestions are offered for further investigation of the proposed dimensions.
TABLE OF CONTENTS

Page

ABSTRACT.............................................................................................................. iii

LIST OF TABLES............................................................................................... vi

INTRODUCTION.................................................................................................... 1

METHOD

Subjects............................................................................................................. 18
Instruments......................................................................................................... 18
Procedure............................................................................................................. 21

RESULTS............................................................................................................. 23

DISCUSSION....................................................................................................... 32

REFERENCES..................................................................................................... 45

APPENDICES

A: Multidimensional Scale of Control......................................................... 49
B: Multidimensional Scale of Control
(Listed by Subscale)................................................................. 56
C: Rotter Internal-External Control
Scale (I-E)...................................................................................... 71
D: Adult Nowicki-Strickland Internal-
External Control Scale (ANS-IE)................................................. 74
E: Marlowe-Crowne Social Desirability Scale (MCSDS)......................... 77
<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Numbers of Original and Retained Items on MSC Subscales</td>
<td>24</td>
</tr>
<tr>
<td>2.</td>
<td>Correlations Between MSC Subscales</td>
<td>26</td>
</tr>
<tr>
<td>3.</td>
<td>Correlations Between MSC Subscales and other Instruments</td>
<td>27</td>
</tr>
<tr>
<td>4.</td>
<td>Varimax Rotated Factor Matrix of MSC Subscales</td>
<td>29</td>
</tr>
<tr>
<td>5.</td>
<td>Varimax Rotated Factor Matrix of MSC Subscales, I-E, and ANS-IE</td>
<td>31</td>
</tr>
</tbody>
</table>
Introduction

The concept of an individual's perception and experience of control has been a frequent topic of psychological discussion and research, particularly within the past decade. The tremendous volume of such research is documented by extensive reviews of the literature (Lefcourt, 1966; 1972; 1976; Prociuk & Lussier, 1975; Throop & MacDonald, 1971). Emerging along with this research are increasing criticisms of the supposed simplistic nature of the construct, and the corresponding deficiencies in its measurement. Research and theoretical discussions have pointed to the complex nature of the control construct which has not been adequately accounted for in existing measures. The present research involves the initial steps in the construction and validation of a scale to examine and measure multidimensional aspects of the control construct.

Rotter (1966) described internal and external locus of control based on reinforcement theory. An individual has a belief in external control if he perceives reinforcement for his behavior as the result of luck, chance, fate, or under the control of powerful others. Internal control is defined in terms of an individual's perception of events as contingent upon his own behavior or his own relatively permanent characteristics. Rotter (1966) developed the Internal-External Con-
control Scale (I-E) to measure this construct. He submitted that the I-E scale was unidimensional, citing factor analyses done by Franklin (1963) and himself. Rotter also wrote that his scale was reliable and relatively free of contamination by social desirability. Prociuk and Lussier (1975) reported that the Rotter I-E scale, despite several weaknesses which have been identified, was the most widely used measure of locus of control. This appears to be true even in more recent years. The following discussion will highlight some of the identified weaknesses in the measure.

Several investigators have found significant correlations of Rotter's I-E scale with social desirability (Altrocchi, Palmer, Hellman, & Davis, 1968; Feather, 1967; Hjelle, 1971; Vuchinich & Bass, 1974), and, therefore, have suggested the validity of the scale is questionable. The measure has also been criticized for its difficult reading level and lack of generalizability to noncollege populations (Nowicki & Duke, 1974).

By far, however, the increasing volume of criticisms has centered on the failure of the I-E to differentiate among various dimensions of control. Rotter (1966) reported that the early factor analyses attributed much of the variance on the scale to a general factor, and he stated that any additional factors were not sufficiently reliable to suggest clear-cut subscales. His conclusion that the I-E scale measures internality-externality as a unidimen-
sional characteristic has been challenged by various theoretical discussions and investigations, including several further factor analytic studies.

Mirels' (1970) factor analysis yielded two distinct factors on Rotter's scale: a belief concerning felt mastery over the course of one's life and a belief of the extent to which the individual citizen can exert impact on political institutions. Other investigators have found evidence for the two factors as reported by Mirels (Abrahamson, Schludermann, & Schludermann, 1973; Cherlin & Bourque, 1974; Viney, 1974). Kleiber, Veldman, and Menaker (1973) performed a factor analysis which produced three distinct dimensions: non-belief in luck and chance, system modifiability, and individual responsibility for failure. Reid and Ware (1973) found fatalism and social system control to be independent dimensions of the control construct, and suggested that multiple regression research can be conducted with I-E subscales, as the subareas of perceived control are identified.

Collins (1974) hypothesized a different factor structure for the internal and external alternatives of Rotter's scale, and identified four relatively orthogonal subscales: belief in a difficult world, a just world, a predictable world, and a politically responsive world. Duffy, Shifflet, and Downey (1977) conducted a factor analysis with results that generally supported the pattern of dimensions which Collins reported. Prociuk (1977) reanalyzed the data previously re-
ported by Franklin (1963), in which a general factor accounted for 53% of the total scale variance. Prociuk reports that instead, the general factor was found to account for less than 9% of the total variance, and thus the unidimensionality of the I-E scale is highly questionable. Little (1977) concluded from a factor analysis that very distinct dimensions of the I-E scale can emerge from a highly homogeneous sample. He suggested that when dimensions fail to emerge, it may be due in part to the heterogeneity of the sample.

However, the issue of the multidimensional nature of the control construct will probably not be solved by existing or further factor analyses of Rotter's I-E scale. Abrahamson et al. (1973) suggest that while more dimensions of locus of control attitudes need clarification, Rotter's scale has too few items to cover all facets of internal-external dispositions. Rotter himself (1975) in commenting on some misconceptions concerning the control construct, offers his views on the factor analyses of the I-E. He says:

Such factor analyses do not reveal "the true structure of the construct"; they only reveal the kinds of similarities perceived by a particular group of subjects for a particular selection of items (p. 63).

Thus, the need is apparent to assess dimensions of the control construct that may not be adequately represented or distinguished on Rotter's I-E scale. Several investigators have offered suggestions for identifying these dimensions. As a conclusion to a study investigating the reliability and
validity of the I-E scale, Hersch and Schiebe (1967) noted that internal scorers are a more homogeneous group than external scorers, indicating "a diversity in the psychological meaning of externality" (p. 612). They provide some guidelines for delineating the concept of externality, suggesting, for example, a need to assess how realistic it is for a person to believe that events are beyond his control, and whether he considers external forces to be benevolent or malevolent.

Several subsequent investigators have noted the need for both a clearer theoretical picture and an improved measure of the control construct. Nowicki and Strickland (1973) constructed a locus of control scale for children which provided the basis for an adult scale developed by Duke and Nowicki (1973). This latter scale, the Adult Nowicki-Strickland Internal-External Control Scale (ANS-IE), was aimed at remedying some of the problems of Rotter's I-E, specifically its correlations with social desirability and lack of generalizability to noncollege populations. It was found to be reliable, independent of social desirability, and valid insofar as it is similarly related to personality variables as is Rotter's scale (Duke & Nowicki, 1973; Nowicki & Duke, 1974). The authors concluded that both Rotter's I-E and the ANS-IE are measuring the same construct, but not in an identical manner. Thus, while the ANS-IE is an improvement over some of the psychometric difficulties in the I-E, it does not deal with
the more complex issue of the multidimensionality of the construct.

Levenson (1973) developed a test to measure three different aspects of locus of control--internality, control by powerful others, and control by chance forces. She concluded on the basis of a factor analytic study that the refinement of the I-E scale into three orientations is justified and adds to the usefulness of the locus of control concept (Levenson, 1974).

Coan and Fairchild (1977) directly addressed the multidimensionality issue in their revised version of the Personal Opinion Survey (POS). The authors describe the instrument as "an attempt to capture more of the variation in the ways in which people experience control or the lack of it" (p. 1). After three item analyses and revisions, the authors report that the POS provides scores for the following seven factors: achievement through conscientious effort, personal confidence in ability to achieve mastery, capacity of mankind to control its destiny vs. supernatural power or fate, successful planning and organization, self-control over internal processes, control over large-scale social and political events, and control in immediate social interaction.

Research has been performed correlating each of the seven POS scales with Rotter's I-E. It is concluded that:

Rotter's internality score bears some relationship to all the POS factors..., but the POS appears to
yield much information that is not reducible to Rotter's dimension (Coan & Fairchild, 1977, p. 4).

The POS provides information on several dimensions suggested by previous researchers, namely personal experience vs. people in general, and malevolent vs. benevolent external intervention. The inventory, however, is scored along various content areas rather than the larger dimensions. For example, although the POS has both malevolent and benevolent external intervention items, these do not constitute separate dimensions, but rather are distributed in the several content areas. It is thus not possible to assess patterns of responding and personality variables based on the suggested dimensions.

A recent attempt to structure an instrument along these lines has been made by Connell (1977) in his Multidimensional Measure of Children's Perceptions of Control (MMCPC). Recognizing the multidimensional nature of the construct, he feels that children have different perceptions of the causes of what happens to them depending on the nature of the event. Control beliefs also vary depending on whether children perceive events as affecting themselves or most other children. Connell argues that we should stop classifying children as either internal or external, and should instead, "measure the construct more thoughtfully and with more attention to its multidimensional nature" (p. 3).

The MMCPC departs from other measurement attempts of
control perceptions in allowing subjects to indicate that more than one source of control is responsible for the same event (i.e. separate items are included which tap the relative contribution of each source of control). The scale assesses four dimensions: source of control (internal, powerful others, unknown), competency area (cognitive, social, physical), outcome (success, failure), and realm of reference (personal, other children). Thus, each item can be scored along several dimensions, and various subscale scores can be obtained.

The present research provides a multidimensional measure of the control construct for adults which may also add to a theoretical understanding of the concept. Research consistently indicates that the construct is more complex than early attempts at its definition indicated. Collins, Martin, Ashmore, and Ross (1973) speak of the various dimensions in the "internal-external metaphor" dealing with the broad categories of internal and external control of behavior and beliefs about such control. They consider Rotter's conceptualization of internal-external reinforcement expectancies to be only one aspect of the metaphor under beliefs. It appears, however, that Rotter's scale has been falsely assumed to measure a simple personality dichotomy, and then incorrectly related to countless other personality variables. If control orientation in fact involves several dimensions, then the need clearly exists for an instrument which separates these dim-
ensions and investigates their relation, if any, to a more generalized concept.

The Multidimensional Scale of Control (MSC) developed for the present research is based on nine hypothesized dimensions of the control construct. These dimensions are: 1) general vs. 2) personal control orientation, the differentiation of perceived external control from 3) other people, 4) chance factors, and 5) religious factors, perceived control in 6) benevolent or 7) malevolent situations, 8) perceived inability to control forces arising within oneself, and 9) an unrealistic internal attitude. Subsequently, the rationale for considering each of these to be component dimensions of the control construct will be presented.

Regarding the general vs. personal orientation, Coan (1966) criticized the I-E scale for favoring items dealing with societal and political events as opposed to personal habits, traits, goals, or other interpersonal and intrapersonal concerns. He proposed that the I-E scale could be improved if the items were varied with respect to several aspects of external forces, differentiating whether they are social, physical, or indeterminate, or whether they are benevolent, malevolent, or indifferent. In their Personal Opinion Survey, Coan and Fairchild (1977) allowed for several different kinds of external forces, with items phrased both in terms of the subject himself and people in general.
Gurin, Gurin, Lao, and Beattie (1969) have made a
distinction between what they call control ideology, or
how much control one believes most people in society pos-
sess, and personal control, or how much control one per-
sonally possesses. In their studies of Negro youths'
perceptions of discrimination, they found it to be a use-
ful distinction whether an externally controlled individ-
ual is blaming chance or a faulty system (i.e. discrimina-
tion) for negative consequences. Lao (1970) emphasizes
that the personal or ideological levels of belief are
not distinguished on Rotter's scale, and differences
would probably emerge as a function of whether the items
are phrased in the first or third person. In summarizing
the findings of previous investigations, Joe (1971) said
that to be a valid instrument, the I-E must be modified
to distinguish those aspects of a person's world view
which indicate a personality trait and those which re-
fect societal norms. Similarly, Collins et al. (1973)
noted that a belief in situational determinants of one's own
behavior may not necessarily imply a concurrent belief in
external determinants of others' behavior.

The subdivision of external control orientation into
perceptions of control by various external sources is sup-
ported by writings and research of previous investigators.
Concerning the assessment of children's control beliefs,
Crandall, Katkovsky, and Crandall (1965) stressed that
control by other people should be separated from control by impersonal forces. Levenson's (1973) scale which separated control by powerful others from control by chance forces was developed along these same theoretical lines. She explained the rationale for this division by saying that people who believe the world is unordered (controlled by chance) would behave and think differently from people who think the world is ordered but that powerful others are in control, these latter individuals retaining a potential for control. She provided statistical evidence as well as intuitive reasoning for considering these to be separate dimensions (Levenson, 1974).

While several control instruments assess perceptions of control by chance forces, none has successfully separated religious factors from the generalized external forces. Problems in relating control orientation to perceptions of religious control have arisen from such a measurement deficiency. Benson and Spilka (1973) in investigating God-image as a function of (among other variables) locus of control, found non-significant correlations between locus of control (as measured by Rotter's I-E) and controlling beliefs of God. In commenting on this unexpected result, the authors explained that the expected relationship may have been masked by a measurement problem. They said:

Rotter's (1966) scale defines external control in
terms of luck, fate, and chance. While it seems reasonable to argue that one who places his fate in God's hands is externally controlled, he might find that options phrased in luck and chance terminology are irrelevant (p. 308).

Since the perceptions of control from religious sources may emerge differently than that by other forms of external control, it is hypothesized as a separate dimension on the MSC.

Research from a variety of sources has indicated that control beliefs may vary dependent upon the malevolence or benevolence of events. It has been suggested that people who score on the external end of the I-E may do so for defensive reasons (Hersch & Schiebe, 1967; Rotter, 1966). The external orientation allows one to maintain self-esteem by attributing negative events to forces beyond one's control.

Attribution research has provided evidence for the existence of the defensive-external orientation. Phares, Wilson, and Klyver (1971) found that externals attributed more blame for failures to environmental factors than did internals. Davis and Davis (1972) found that while internals and externals did not differ a great deal in their self attributions for success, externals attributed significantly more responsibility for failure to forces beyond their control. Studies have also pointed to complex relations between self-esteem, locus of control, and success-failure attributions. For instance, it has been pre-
dicted and shown that with positive self-esteem, good outcomes will be internalized and bad outcomes externalized, whereas the reverse is true for negative self-esteem (Fitch, 1976; Heider, 1958).

Rotter reported from his early studies that there were two types of externals. Those who acted much as expected were termed "passive externals" and the other group who acted more as internals would be expected were termed "defensive externals". Rotter tried to distinguish the groups on the basis of differential endorsement of success-failure items on the I-E, but was unsuccessful. He attributed this to college students' felt necessity for consistency in their responses, and cited research where the differentiation does appear to work for children.

In a laboratory task, Gilmor and Minton (1974) were able to find evidence for the two types of externals to which Rotter had referred. In analyzing their data, they described the distinction:

The defensive external is said to use his external orientation solely as a defense against failure or other such negative events. When a threat such as failure at a task is not present, the external orientation is discarded. The true external, on the other hand, tends to maintain his external orientation at all times, whether the events that occur to him are positive or negative (p. 170).

Thus, important personality variables may be involved in differential responding to control perceptions
of malevolent and benevolent events. While it may be situation specific and more completely assessed in laboratory task situations than in a generalized inventory, the possibility of tapping this dimension in a control measure has been overlooked. An alternative explanation of Rotter's failure to verify his hypothesized distinction between externals on the I-E scale may be the lack of a sufficient number of systematically varying items representing benevolent and malevolent events on that scale. The MSC has included such items which may allow for further research into previously hypothesized patterns.

The conception of a separate dimension concerning control from forces arising within the individual is presented in a model of psychological control discussed by Tiffany, Schontz, and Woll (1969). The model is composed of four kinds of experienced control: a) control from internal or organismic forces (FI) b) the individual's control over these inner states (OI) c) control over the environment (OE) and d) controlling forces coming from the environment (FE). Of these, two represent self-determined behavior (OI and OE) and two represent non-self-determined behavior (FI and FE). Tiffany, Sal-kin, and Cowan (1970) developed the Experienced Control Scale to measure these four sources of control. Subsequent research (Donovan & O'Leary, 1975) has shown that
although Rotter's perceived I-E control and experienced control are theoretically related, empirically the scales seem to measure different components of the control orientation.

A closer examination of the theoretical ideas of Tiffany and his associates and those of Rotter reveals that indeed the two are dealing with different aspects of control. Rotter seems to be dealing with the question as posed by Collins et al. (1973), "Are the important causes of man's behavior located inside or outside his skin?" The implication appears to be that if the individual perceives them as inside, they are within his control, but outside his control if perceived as external to himself. Tiffany and his associates cross this distinction by considering those forces which come from inside oneself, but may not be under one's control (non-self-determined behavior). Thus, an individual may perceive the cause for an event as totally within his physical being, but outside his control (i.e. "irresistible impulses"). Using the terms "internal" or "external" to apply to such an individual may be misleading. This issue can be explored by assessing control from internal processes as a separate dimension and examining its relationship to other dimensions.

The final hypothesized dimension of the MSC concerns the realistic nature of one's control beliefs. Collins
et al. (1973) made a distinction between individual behavior as a function of actual internal vs. external determinants, and individual beliefs about internality and externality. They said a person whose behavior is, in fact, controlled by environmental determinants may or may not possess an external control ideology. Thus, the question posed by Hersch and Schiebe (1967) concerning how realistic one's control beliefs are, becomes relevant.

Rotter (1966) addressed the reality of one's control beliefs in highlighting one of the problems in conceptualization of control. He noted that individuals at both extremes of the control dimension appear to be unrealistic, and thus one should not expect a linear relationship between locus of control and adjustment. Rotter (1975) criticized those psychologists who quickly assume that it is good to be internal and bad to be external. He cautioned that:

there must be a limit on personal control. Many people already feel that they have more control than is warranted by reality, and they may be subject...to strong trauma when they discover they cannot control such things as automobile accidents, corporate failures, diseases, etc. (p. 61)

It is appropriate, then, to include in a control measure some assessment of an unrealistic internal attitude.

The MSC is composed of the above nine hypothesized dimensions which incorporate a combination of intuitive and research-based suggestions. The scale is intended
to provide a more complete measure of the highly complex control construct. To determine whether the hypothesized dimensions of control actually exist as separate components will require a series of different analyses. The present research involves the initial steps in such a validation procedure. It is also exploratory in nature in its examination of relationships between the dimensions and to previously established measures.
Method

Subjects

Subjects were 125 undergraduate psychology students from the University of Dayton and Sinclair Community College, Dayton, Ohio. Of these, 87 were male and 38 were female. The age range was from 18 to 41, with 90% of the subjects in the range from 18 to 22.

Instruments

Multidimensional Scale of Control (MSC). The scale consists of 120 items, to be answered true or false. The items were taken both directly and in modified form from the Rotter (1966) Internal-External Control Scale, the Adult Nowicki-Strickland Internal-External Control Scale (Nowicki & Duke, 1973), the Personal Opinion Survey (Coan & Fairchild, 1977), and the Levenson (1973) scale. Additional items were created by the author. (See Appendix A)

The instrument is composed of nine subscales, in which items may overlap and be a part of several subscales. The subscale items are distributed randomly throughout the scale (see Appendix B for subscale distribution of items). The overall scale is divided into the two subscales of Overall-Subject (OVS) and Overall-General (OVG). OVS has 71 items which are all phrased in terms of the subject
(first person) while GVG has the remaining 49 items phrased in terms of the general population (third person). The remaining seven subscales are:

External-Others (EO)--24 items which when answered in the external direction indicate a perception of control emanating from other people. Examples:

My accomplishments don't mean much until they are recognized by others. (True)

If someone loses a job, it's probably because his/her superiors didn't like him/her. (True)

External-Chance (EC)--23 items which when answered in the external direction indicate a perception of control by factors of chance or luck. Examples:

Most problems will solve themselves if I just don't fool with them. (True)

Getting a good job depends mostly on being in the right place at the right time. (True)

External-Religion (ER)--15 items which when answered in the external direction indicate a perception of control emanating from religious beings or forces. Examples:

I believe that God has an ultimate plan for my life. (True)

Many of the world's problems today are caused by God's wrath at people turning away from religion. (True)

External-Benevolent (EB)--18 items which when answered in the external direction indicate a perception of external control regarding benevolent events or situations. Examples:
When I get what I want, it's usually because I'm lucky. (True)

A successful life generally depends upon ability and hard work. (False)

External-Malevolent (E_M) -- 18 items which when answered in the external direction indicate a perception of external control regarding malevolent events or situations. Examples:

If a black cat crosses my path, I expect something bad to happen. (True)

Most of people's misfortunes are caused by other people. (True)

"External"-Impulse (E_I) -- 22 items which when answered in the external direction indicate a perception of control from organismic or impulsive forces. Examples:

I often get so angry I can't control myself. (True)

Almost anyone can break a bad habit if he wants to badly enough. (False)

Unrealistic Internal (U_I) -- 14 items which when answered in the internal direction indicate a perception of internal control that is highly unrealistic. Examples:

All good things that happen to me are a result of my own doing. (True)

People could stay healthy all the time if they took proper care of themselves. (True)

Internal-External Control Scale (I-E). This instrument was developed by Rotter (1966) to measure generalized expectancies of control of reinforcement. It is a 29-item forced choice questionnaire. Of these, six are fillers
while the other 23 offer choices between internal and external belief statements. The score is the total number of external items endorsed. (See Appendix C)

Adult Nowicki-Strickland Internal-External Control Scale (ANS-IE). The scale (Duke & Nowicki, 1973) is a 40-item yes-no questionnaire designed to measure individual perceptions of internal and external control. The score is the total number of items answered in the external direction. (See Appendix D)

Marlowe-Crowne Social Desirability Scale (MCSDS). The 33-item true-false scale was developed by Crowne and Marlowe (1960). It assesses the degree to which individuals present themselves in favorable terms in order to achieve the approval of others. The score is the number of items answered in a socially desirable direction. (See Appendix E)

Procedure

The scales were administered to subjects in a series of group testing situations. Each subject was given a test booklet and a packet of six computer cards to be used for the answers. The test booklet consisted of the four instruments in the following order: Multidimensional Scale of Control, Internal-External Control Scale, Adult Nowicki-Strickland Internal-External Control Scale, Marlowe-Crowne Social Desirability Scale, with printed instructions corresponding to each test. In addition, the following in-
Instructions were given orally by the examiner:

The booklet which you have received consists of a series of four inventories. The first consists of 120 true-false items. Read the directions with me:

"Read each of the following statements and decide whether you feel it is true or false. This is a measure of personal belief; obviously there are no right or wrong answers. If you feel a statement is true, blacken the first column on the card, labeled T. If you feel a statement is false, blacken the second column, labeled F.

Make sure the number on the answer sheet corresponds to the number of the statement you are answering. Please try to answer all items."

You are to use the first three computer cards for the answers to this inventory. There are then three shorter inventories. Read the directions in the booklet and complete these. Begin a new card for the answers to each new inventory.

Following each testing session, all subjects received a one-page debriefing report explaining the purpose of the study and the nature of the inventories they answered.
Results

The Multidimensional Scale of Control (MSC) was scored to yield 10 scores for each subject—an overall score (in the external direction) and nine subscale scores (all in the external direction, with the exception of Unrealistic Internal, which can only be scored in the internal direction). Each subject also received a score for the Internal-External Control Scale, Adult Nowicki-Strickland Internal-External Control Scale, and the Marlowe-Crowne Social Desirability Scale.

An item analysis was performed on the MSC by correlating individual subscale items with the scores for the upper and lower 30% of scores on that subscale. Only those items which correlated significantly at the .05 level (Chi Square test) were retained (see Appendix B). Results are based on further analyses which were performed following the discarding of items from each subscale as indicated by the item analysis.

Table 1 presents the number of original and retained items, along with the ranges of scores, for each subscale. As can be noted from the table, a much greater proportion of items was eliminated from the overall scales (Overall, Overall-Subject, Overall-General) than the remaining seven
### Table 1
Numbers of Original and Retained Items on MSC Subscales

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Number of Original Items&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Number of Retained Items</th>
<th>Range of Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>120</td>
<td>28</td>
<td>16-68</td>
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<tr>
<td>Overall-Subject</td>
<td>71</td>
<td>31</td>
<td>10-41</td>
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<tr>
<td>Overall-General</td>
<td>49</td>
<td>21</td>
<td>6-28</td>
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<tr>
<td>External-Others</td>
<td>24</td>
<td>18</td>
<td>1-19</td>
</tr>
<tr>
<td>External-Chance</td>
<td>23</td>
<td>19</td>
<td>0-17</td>
</tr>
<tr>
<td>External-Religion</td>
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<td>13</td>
<td>0-13</td>
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<tr>
<td>External-Benevolent</td>
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<td>11</td>
<td>0-12</td>
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<tr>
<td>External-Malevolent</td>
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<tr>
<td>&quot;External&quot;-Impulsive</td>
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<td>1-18</td>
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<tr>
<td>Unrealistic Internal</td>
<td>14</td>
<td>12</td>
<td>1-9</td>
</tr>
</tbody>
</table>

<sup>a</sup>Maximum score on subscale
specific scales. In comparison to the overall scales, the scores on the seven specific scales were distributed on wider portions of their available ranges.

Using Pearson r, intercorrelations were performed between each of the subscales of the MSC. Due to the large n, nearly all of these were significant at the .001 level (see Table 2). It can be observed that each of the subscales with the exception of Unrealistic Internal has a moderate to high correlation with the Overall scale. Although Unrealistic Internal shows the expected negative correlation with the overall external orientation (OV), this is fairly weak at -.18. Nor is there a pattern of strong negative correlations between Unrealistic Internal and the other externally scored subscales. It can be noted that those correlations which are not significant all involve relations with the subscales External-Religion and Unrealistic Internal.

Pearson r was also used to assess the relationship of MSC subscales to the Internal-External Control Scale, Adult Nowicki-Strickland Internal-External Control Scale, and the Marlowe-Crowne Social Desirability Scale. Table 3 shows that the Overall scale has a moderately high correlation with both the ANS-IE and the I-E. Although the pattern of subscale correlations to these two instruments is fairly similar, there is wide variation among the subscales. The weaker correlations are found with the sub-
Table 2
Correlations Between MSC Subscales

<table>
<thead>
<tr>
<th></th>
<th>OV</th>
<th>OVS</th>
<th>OVG</th>
<th>EO</th>
<th>EC</th>
<th>ER</th>
<th>EB</th>
<th>EM</th>
<th>EI</th>
<th>UI</th>
</tr>
</thead>
<tbody>
<tr>
<td>OV</td>
<td>1.00**</td>
<td>0.91**</td>
<td>0.72**</td>
<td>0.45**</td>
<td>0.66**</td>
<td>0.49**</td>
<td>0.68**</td>
<td>0.43**</td>
<td>0.74**</td>
<td>-0.18*</td>
</tr>
<tr>
<td>OVS</td>
<td>1.00**</td>
<td>0.61**</td>
<td>0.39**</td>
<td>0.58**</td>
<td>0.46**</td>
<td>0.58**</td>
<td>0.40**</td>
<td>0.79**</td>
<td>-0.17*</td>
<td></td>
</tr>
<tr>
<td>OVG</td>
<td>1.00**</td>
<td>0.30**</td>
<td>0.70**</td>
<td>0.55**</td>
<td>0.66**</td>
<td>0.34**</td>
<td>0.40**</td>
<td>-0.36**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EO</td>
<td>1.00**</td>
<td>0.28**</td>
<td>0.02</td>
<td>0.24**</td>
<td>0.33</td>
<td>0.34**</td>
<td>0.08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EC</td>
<td>1.00**</td>
<td>0.16*</td>
<td>0.55**</td>
<td>0.47**</td>
<td>0.42**</td>
<td>-0.18*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ER</td>
<td>1.00**</td>
<td>0.70**</td>
<td>0.38**</td>
<td>0.11</td>
<td>-0.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EB</td>
<td>1.00**</td>
<td>0.38**</td>
<td>0.27**</td>
<td>-0.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EM</td>
<td>1.00**</td>
<td>0.29**</td>
<td>0.09</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EI</td>
<td>1.00**</td>
<td>-0.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>UI</td>
<td>1.00**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p<.05
** p<.001
Table 3
Correlations Between MSC Subscales and Other Instruments

<table>
<thead>
<tr>
<th></th>
<th>OV</th>
<th>OVS</th>
<th>OVG</th>
<th>EC</th>
<th>EC</th>
<th>ER</th>
<th>ES</th>
<th>EM</th>
<th>EI</th>
<th>UI</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-E</td>
<td>.52</td>
<td>.48</td>
<td>.52</td>
<td>.22</td>
<td>.59</td>
<td>.03</td>
<td>.29</td>
<td>.11</td>
<td>.37</td>
<td>-.36</td>
</tr>
<tr>
<td>ANS-IE</td>
<td>.55</td>
<td>.55</td>
<td>.36</td>
<td>.26</td>
<td>.43</td>
<td>.07</td>
<td>.25</td>
<td>.16</td>
<td>.45</td>
<td>-.18</td>
</tr>
<tr>
<td>MCDS</td>
<td>-.23</td>
<td>-.23</td>
<td>-.10</td>
<td>-.30</td>
<td>-.13</td>
<td>.12</td>
<td>.03</td>
<td>-.13</td>
<td>-.37</td>
<td>.27</td>
</tr>
</tbody>
</table>

* p<.05
** p<.001
scales External-Others, External-Benvolent, and External-Malevolent, while the correlations on both measures with External-Religion are nonsignificant. There is a correlation of -.23 between the Marlowe-Crowne Social Desirability Scale and the Overall scale (along with significant correlations with several of the subscales), indicating that internality on the MSC is slightly correlated in the positive direction with social desirability.

A least squares factor analysis with varimax rotation was performed. This yielded three factors. The variable loadings on these factors are represented in Table 4. For purposes of describing the factors, only those subscales loading .3 or above on a given factor were considered to load on that factor. It can be seen from the table that no simple factor structure emerged. Most of the variables have a factorial complexity of two, with the variance shared between Factors 1 and 2. The first factor accounts for 73.7% of the variance. Each of the externally scored subscales loads on this factor, with the exception of External-Religion, which loads singularly on Factor 2. Factor 2 accounts for 15.4% of the variance and is composed of loadings from all of the subscales excluding External-Others, "External"-Impulsive, and Unrealistic Internal. Factor 3, which accounts for 19.9% of the variance, is composed of a loading from Overall-General and a negative loading from Unrealistic
Table 4
Varimax Rotated Factor Matrix of MSG Subscales

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>0.835</td>
<td>0.469</td>
<td>0.196</td>
</tr>
<tr>
<td>Overall-Subject</td>
<td>0.823</td>
<td>0.373</td>
<td>0.116</td>
</tr>
<tr>
<td>Overall-General</td>
<td>0.460</td>
<td>0.599</td>
<td>0.454</td>
</tr>
<tr>
<td>External-Others</td>
<td>0.490</td>
<td>0.100</td>
<td>-0.121</td>
</tr>
<tr>
<td>External-Chance</td>
<td>0.565</td>
<td>0.357</td>
<td>0.235</td>
</tr>
<tr>
<td>External-Religion</td>
<td>0.065</td>
<td>0.825</td>
<td>0.060</td>
</tr>
<tr>
<td>External-Benvolent</td>
<td>0.322</td>
<td>0.810</td>
<td>0.086</td>
</tr>
<tr>
<td>External-Malevolent</td>
<td>0.395</td>
<td>0.399</td>
<td>-0.174</td>
</tr>
<tr>
<td>&quot;External&quot;-Impulsive</td>
<td>0.822</td>
<td>0.023</td>
<td>0.081</td>
</tr>
<tr>
<td>Unrealistic Internal</td>
<td>0.015</td>
<td>-0.050</td>
<td>-0.713</td>
</tr>
</tbody>
</table>
An additional least squares factor analysis with varimax rotation was performed, including the Internal-External Control Scale (I-E) and the Adult Nowicki-Strickland Internal-External Control Scale (ANS-IE) as variables along with the MSC subscales. The analysis yielded three factors (see Table 5). Neither the I-E nor the ANS-IE loaded on the second factor, which was made up of loadings from the MSC on the Overall scale, as well as the subscales of Overall-Subject, Overall-General, External-Chance, External-Benevolent, External-Malevolent, and External-Religion. This concurs with the evidence of low correlations between many of the MSC subscales and the other previously established measures of control.
Table 5

Varimax Rotated Factor Matrix
of MSC Subscales, I-E, and ANS-IE

<table>
<thead>
<tr>
<th></th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>0.726</td>
<td>0.584</td>
<td>0.291</td>
</tr>
<tr>
<td>Overall-Subject</td>
<td>0.744</td>
<td>0.497</td>
<td>0.228</td>
</tr>
<tr>
<td>Overall-General</td>
<td>0.270</td>
<td>0.646</td>
<td>0.547</td>
</tr>
<tr>
<td>External-Others</td>
<td>0.510</td>
<td>0.130</td>
<td>-0.002</td>
</tr>
<tr>
<td>External-Chance</td>
<td>0.447</td>
<td>0.400</td>
<td>0.455</td>
</tr>
<tr>
<td>External-Religion</td>
<td>-0.049</td>
<td>0.859</td>
<td>-0.003</td>
</tr>
<tr>
<td>External-Benevolent</td>
<td>0.190</td>
<td>0.823</td>
<td>0.180</td>
</tr>
<tr>
<td>External-Malevolent</td>
<td>0.358</td>
<td>0.427</td>
<td>-0.073</td>
</tr>
<tr>
<td>&quot;External&quot;-Impulsive</td>
<td>0.801</td>
<td>0.151</td>
<td>0.124</td>
</tr>
<tr>
<td>Unrealistic Internal</td>
<td>0.020</td>
<td>-0.021</td>
<td>-0.579</td>
</tr>
<tr>
<td>I-E</td>
<td>0.379</td>
<td>0.090</td>
<td>0.693</td>
</tr>
<tr>
<td>ANS-IE</td>
<td>0.500</td>
<td>0.113</td>
<td>0.355</td>
</tr>
</tbody>
</table>
Discussion

The research performed has provided some preliminary data for the exploration of the control concept. The data support the notion that the perception of control is not a unidimensional characteristic. The evidence suggests that the MSC assesses aspects of control orientation which are not tapped by the prevailing instruments. While the nine hypothesized dimensions did not emerge as separate factors, the multidimensional nature of the control orientation was verified. This research involved the initial steps in examining such a conceptualization.

Possible limitations of the sample should be explored. First, while an understanding of control beliefs should apply universally, a subject sample of undergraduate psychology students is not representative of the general population. The research may have only tapped one part of a wider spectrum of control beliefs. Clearly, for a more complete understanding of the construct, it will be necessary to assess such beliefs in other and/or more varied samples. Second, although the sample used was a restricted group as far as the general population, it is difficult to assess how homogeneous or heterogeneous the group actually was. Little (1977) suggested that distinct dimensions
could emerge from a highly homogeneous sample, but the present group included students from different institutions (a four-year private, religiously affiliated university, and a two-year community college). The age range also varied widely in a small percentage of the sample. In addition, there were specific characteristics associated with certain segments of the sample. For example, many of the students were tested at the end of the semester when the typically less studious procrastinators finally complete their research participation requirements. On the other hand, several other students were voluntary subjects who were enrolled in summer school. These are variables which were not analyzed separately. Finally, the sample was skewed in the direction of males, and sex differences are not accounted for in the study. Previous researchers have not found any consistent sex differences on locus of control measures. Thus, none were hypothesized in the present research and this variable was not analyzed. The possibility that such differences could produce consistent variation in the nature and pattern of control beliefs does exist.

Another limitation in the study comes from the fact that the scale was administered only once to subjects. Thus, there is no data on the reliability of the instrument. This will need to be gathered. Further,
the scale was not administered to any sample once the items were deleted as the item analysis dictated. There must therefore be some consideration of the fact that irrelevant items may have produced a response set in subjects which affected the responses to relevant items.

It appears that the MSC may be slightly contaminated by social desirability, but the extent of this is not uniform throughout the scale. Five of the subscales (Overall-General, External-Chance, External-Religion, External-Benevolent, and External-Malevolent) show no significant correlation with the Marlowe-Crowne Social Desirability Scale. The remaining five subscales, with the exception of "External"-Impulsive, show correlations which are lower than those reported with the Rotter I-E scale (Altrocchi et al., 1968; Feather, 1967; Vuchinich & Bass, 1974). A person with a socially desirable response set tends to answer items assessing control by organismic forces in an internal manner. This is probably because it is generally considered socially desirable to have control over one's personal impulses. Social desirability does not seem to create a major problem with the MSC. The data, however, indicate that the extent of such contamination on a control instrument may vary with specific dimensions.

The item analysis dictated that a large proportion of the items on the three overall scales be discarded.
from those scales since they did not sufficiently discriminate between high and low scorers. One reason this occurred may be that the range of scores on these subscales was truncated, considering the available range. Subjects did not score on the extreme ends of the possible ranges, and thus it would be more difficult for items to separate high from low scorers.

Another reason for this result concerns the nature of the overall scales. Consider the Overall scale which is composed of all 120 items, a combination of the other subscales. In order for large numbers of these items to discriminate between an overall internal and external orientation, large numbers of subjects would have to have answered many items (across subscales) in the same direction. Considering the proposed multidimensional nature of the construct, this would not be expected to happen very often. In fact, in some cases, consistently external or internal responding across subscales could be contradictory (e.g. External-Chance, External-Religion). Thus, because the Overall scale encompasses the other dimensions, it should not be expected to provide a highly effective discriminator of control orientation. For purposes of the present discussion, correlations involving the Overall scale should be interpreted with caution since, following the item analysis, the scale was composed of slightly less than 25% of the orig-
nal items.

A major area of interest in examining the multidimensional nature of the control construct would be how the hypothesized dimensions relate to one another. The overall nature of the concept leads to the expectation that there would be some degree of intercorrelation among the dimensions. It was hoped that information on these relationships could be extracted by examining the correlations between subscales on the MSC. Unfortunately, these correlations are minimally interpretable due to them nearly all being statistically significant.

In such a situation, it may be more meaningful to examine those correlations that are not significant. These involve relations with the two subscales, External-Religion and Unrealistic Internal. While the perception of external control from religious forces (ER) does correlate with the overall external orientation (OV), it does not correlate with a perception of external control from others (EO), chance (EC), or impulsive, organismic forces (EI). This supports the point made by Benson and Spilka (1973) which suggested that people who feel controlled by religion are not those who perceive themselves as controlled by chance. Thus, previous measures which largely represented external control by chance forces may have incorrectly assessed these religiously controlled individuals as having an internal orientation. Perceptions of religious control con-
tinue to be a highly unexplored area; the exposed relationship in the present study may open some paths for further investigation.

Concerning the unrealistic internal attitude, a consistent pattern of negative correlations with the other subscales did not emerge. A genuine and realistic internally oriented individual would be expected to score very low on the external subscales. However, the unrealistic internal individual may be less well adjusted (as suggested by Rotter, 1966), less consistent, and actually in the external direction on some of the other subscales, accounting for the inconsistent correlations.

Even though the remaining correlations are statistically significant due to the data structure, it may be informative to examine the relative strengths of these relationships. One interesting result is the relatively weak correlation (.37) between a perception of external control in benevolent situations (EB) and a similar perception in malevolent situations (EM). This indicates that the perception of control is not similarly felt in the two types of situations. A control orientation may be dependent upon the positive or negative results or aspects of a situation, as suggested by previous research.

A fairly high correlation (.70) is found between a perception of external control from religious forces (ER) and that in benevolent situations (EB). Those individuals
who feel control by religious forces are also willing to admit external control in benevolent situations. This may be akin to a sense of "Providence" of some sort. The perception of religious control in such individuals is probably seen in a favorable light. The correlation between External-Religion and External-Malevolent is .38. Thus, the religiously controlled individual may take more personal responsibility for unfavorable than favorable situations.

The nature of the relationship of the "External"-Impulsive subscale with some of the other subscales suggests some answers to the earlier posed question concerning the meaning of the term "external" in a control orientation. Of the seven component subscales, "External"-Impulsive is correlated most highly with the Overall scale at .74. Thus, a perceived inability to control forces arising within oneself may have a strong relationship with an overall perception of control from a variety of sources. The significant correlation between "External"-Impulsive and External-Chance, for example, suggests that some people may experience a sense of control from internal bodily forces in a way similar to which they experience control from external chance factors. This provides evidence that the term "external" is somewhat misleading. It appears that what is really at the crux of the control question is whether an individual perceives events, thoughts,
or reinforcements as within his own control, regardless of whether they originate within his body or outside of it.

The factor analysis yielded three factors which do not coincide in any clear-cut manner with the nine hypothesized dimensions. The factorial complexity of the variables suggests that most are measuring more than one theoretical dimension. There are, however, some reasonable explanations of the structure which emerged.

It would be expected that the three overall scales would overlap on factors, as these are more general theoretical dimensions. Factor 1 encompasses each of the externally scored subscales with the exception of External-Religion. Factor 2, while it shares some of those loadings with Factor 1, has its highest loadings from External-Benevolent and External-Religion. Keeping in mind the proposed theoretical significance of the correlation between these two variables, it appears that Factor 2 represents a perception of benevolent external control. This may be a type of external control orientation which is seen as facilitating. An examination of the other variable loadings on this factor seem to support this conjecture. There is a loading from the Overall scale, indicating that it indeed involves an external orientation. External-Others and "External"-Impulsive do not load on this factor, indicating an individual sense of
control over forces from within and from other people. There is some recognition of external control from chance, which may be realistic, as may be some recognition of external control in malevolent situations.

In contrast, Factor 1 seems to represent a strong sense of external control which may be more debilitating. The loading of Overall control is rather high, as is external personal control (OVS). In addition, External-Others and External-Chance load fairly highly on Factor 1, suggesting that this factor represents a perception of lack of personal control stemming from a variety of sources.

The most striking feature of Factor 3 is its high negative loading from Unrealistic Internal, which represents a rejection of this attitude. The movement away from such an attitude, coupled with the low loadings from most of the external subscales, seem to indicate that this factor encompasses a realistic internal orientation. However, a loading from Overall-General suggests that the factor represents something more complex than generalized internality. This factor may involve a separation of the personal and general control ideology in which internal control is accepted on an individual level, but there is a greater recognition of externality operating in the world.

Such speculation on the very specific theoretical
nature of this factor points to the need for a more involved examination of internality. In addition, the question of the realistic/unrealistic nature of control beliefs might be best explored through systematically varying items on each of the external subscales, which the MSC presently does not include.

The factor structure might indicate three general divisions of the control concept, which could be pursued in further research. These would be perceived lack of personal control which is probably debilitating, perceived lack of control in certain areas, but coming from sources which are seen as beneficial, and a type of internal attitude, which would need to be further explored and subdivided.

Concerning the relationship of the MSC to the two predominantly used measures of locus of control, the I-E and the ANS-IE, there seems to be sufficient evidence that the MSC yields information which is not accessible on the other instruments. While not all of the variance on the I-E or ANS-IE can be accounted for by the MSC subscales, these subscales singly and in combination are tapping elements of the control construct which the other measures have not reached. The lack of a significant correlation on both instruments with the External-Religion subscale in particular indicates that the perception of control from religious forces is a dimension that is not recognized on the I-E or ANS-IE.
The factor analysis did not yield nine separate factors which corresponded directly with the nine hypothesized dimensions. This in itself, however, should not be taken as evidence that the dimensions do not exist as part of the control construct, or that they cannot be useful descriptive measures in predicting or understanding behavior and/or personality traits.

The implication continues to be that the control construct is complex. It is evident from the correlations and the factor structure which did emerge that individuals respond differently to endorsement of external control items on different subscales. A theoretical explanation has been proposed to account for the three factors which emerged in the present study. However, before dismissing the plausibility of the subscale structure on the MSC, further steps should be taken to examine the usefulness of the proposed distinctions.

These steps might involve correlating certain subscale scores with other criterion measures. For example, to explore hypothesized personality differences in perceptions of control in benevolent/malevolent events, individual scores on these subscales may be correlated with results from attribution paradigms involving success-failure situations. Further, the subscale scores may be correlated with self-esteem measures to see if the expected relationships (low self-esteem—low External Malevolent, high Ex-
ternal-Benevolent, and vice versa) occur. Scores on "Ex-
ternal"-Impulsive could be correlated with individual suc-
cess rates in weight loss or stop smoking programs. High
Unrealistic Internal scores might be related to adjust-
ment difficulties or a high score on a neuroticism meas-
ure. There are various criteria that might be used to
assess the meaningfulness of each subscale. If the cor-
relations between individual subscales and outside criter-
ion measures prove to be significant, then the MSC could
be a useful instrument in both predicting and understand-
ing personality patterns and behavior.

There has been an immense amount of research done
in the past decade correlating numerous personality var-
iables with "locus of control" as a unidimensional char-
acteristic. This research could be improved upon by using
an instrument such as the MSC. This would yield a more
intricate understanding of the role which specific as-
pects of the control orientation play in the variation
along other variables. The potential result is both a
clearer understanding of the control construct itself as
well as heightened knowledge concerning each of the cor-
related traits and behaviors.

Ultimately, as the MSC and its predictive capabili-
ties are refined, the scale could emerge as in individual
personality profile indicator in the area of control, along
the lines of the MMPI. Presently, research in the area of
control has yielded such global assessments as, "Externals tend to be more maladjusted..." A goal of the MSC would be to specify more precisely what aspects of the control orientation correlate with certain traits and behaviors. A research conclusion which might be more useful would be, "Those who perceive control primarily from chance factors and other people tend to be...(insecure, dependent, etc.)."

The present research was not expected to yield conclusions about the actual structure of the control construct. While the data is not sufficient to rule out the plausibility of the proposed nine dimensions, suggestions have been made about a possible underlying structure of the construct based on the factor analysis. The research does provide support for the growing notion that control orientation is a multidimensional concept.

The present investigation has suggested some interesting and plausible relations between various aspects of the control orientation. It is only as research steps are taken to refine such a new and primarily intuitively based instrument that more meaningful conclusions regarding the nature of control can be reached.
References


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45


Franklin, R. D. Youths' expectations about internal vs. external control of reinforcement related to variables. Unpublished doctoral dissertation, Purdue University, 1963.


Nowicki, S., & Strickland, B. R. A locus of control scale


Appendix A: Multidimensional Scale of Control

Read each of the following statements and decide whether you feel it is true or false. This is a measure of personal belief; obviously there are no right or wrong answers. If you feel a statement is true, blacken the first column on the card, labeled T. If you feel a statement is false, blacken the second column, labeled F.

Make sure the number on the answer card corresponds to the number of the statement you are answering. Please try to answer all items.

1. My accomplishments don't mean much until they are recognized by others.

2. People aren't born with natural athletic ability; they have to put in a great deal of effort to do well in sports.

3. I sometimes have a strong impulse to do something that I am unable to control.

4. Most students don't realize the extent to which their grades are influenced by accidental happenings.

5. I know I can accomplish anything if I set my mind to it.

6. If a black cat crosses my path, I expect something bad to happen.

7. What the world needs is more tolerance and reason, and less blind faith.

8. When good things happen to me, it's because there are good people on my side.

9. The individual in this country has much influence on political and social decisions, though many people don't seem to realize it.

10. When I get a craving to eat something, I usually give in and eat it.

11. I feel disappointed with myself when I haven't done as well as I might have.

12. I am usually able to make my plans work, regardless of how they fit in with those around me.
13. People's lives are largely controlled by accidental happenings.

14. I can hide my feelings very well.

15. My life is in the hands of God who insures that things happen for my own good even if I don't understand them at the time.

16. A person's life is generally determined by influential people around him/her.

17. I feel that I have never been aided by good luck.

18. Problems often result from being in the wrong place at the wrong time.

19. Most of my personality is a result of heredity.

20. I am usually able to protect my personal interests.

21. Sometimes bad things have happened to me because my faith in God has wavered.

22. It's nearly impossible to get ahead unless you please the people in power.

23. When something good happens to me, it is usually because I have worked hard for it.

24. People could stay healthy all the time if they took proper care of themselves.

25. It generally matters little to me what others think of me.

26. Many of the unhappy things in people's lives are due to bad luck.

27. I often make impulsive decisions instead of carefully weighing all the facts.

28. I feel that I have never been victimized by bad luck.

29. Many of the world's problems today are caused by God's wrath at people turning away from religion.

30. I believe that wishing can make good things happen.

31. Anyone can learn how to interact with people and have good friends.
32. When I have done poorly in school, often it was because the teacher didn't like me.

33. I often get so angry I can't control myself.

34. All good things that happen to me are a result of my own doing.

35. This world is run by a few people in power and there is not much the little guy can do about it.

36. I believe that God has an ultimate plan for my life.

37. People who do well in school have usually studied hard.

38. I often get into trouble because I am in the wrong place at the wrong time.

39. People often do things as a result of impulses they can't control.

40. I find it best to go along with what the majority want to do.

41. People can always get their own way if they just keep trying.

42. If someone loses a job, it's probably because his/her superiors didn't like him/her.

43. When I get upset about something, I usually know why and what to do about it.

44. Winning or losing a game is usually a matter of chance.

45. Many times I feel I have little influence over the things that happen to me.

46. The idea that our lives are controlled by some kind of predestination is nonsense.

47. Most problems will solve themselves if I just don't fool with them.

48. When I am sexually excited, I feel I must engage in sexual activity, even if the circumstances are inappropriate.

49. Even at the local level, it is difficult for one person to influence political decisions.
50. If I lose a game, my opponent was probably a better player than I.

51. I can usually stay healthy if I get the right food, sleep, and exercise.

52. I probably wouldn't pursue certain goals if I felt my parents would disapprove.

53. Sometimes accidents happen over which people have little control.

54. My moods swing back and forth a lot from high to low.

55. We should worry less about God's will and more about what we can do about our problems.

56. I am always to blame when something doesn't work out well for me.

57. I usually stick by my own decisions regardless of attempts by others to change my mind.

58. If I find a four-leafed clover, I believe that it will bring me good luck.

59. People who are overweight can diet successfully by exercising will power.

60. Getting what I want sometimes requires pleasing those people above me.

61. I believe that God will ultimately reward me for my good deeds.

62. Often there is no connection between how hard a person studies and the grades he/she receives.

63. In general, I do things deliberately, not impulsively.

64. I often feel that I am victimized by bad luck.

65. Most people can change what might happen tomorrow by what they do today.

66. It matters a great deal to me what others think of me.

67. Man cannot be trusted to manage his own affairs without God's help.
68. I have my own code of behavior and I follow it strictly.

69. Getting a good job depends mostly on being in the right place at the right time.

70. I can often change a person's mind by discussing things.

71. People's misfortunes usually result from the mistakes they make.

72. There has usually been a direct connection between how hard I studied and the grades I got.

73. Being successful may rely in part on pleasing one's superiors.

74. I feel increasingly helpless in the face of what is happening in the world today.

75. Many times we might just as well decide what to do by flipping a coin.

76. To get things I want, I rely more on my own abilities than faith in God.

77. There will always be people fighting since aggression is largely instinctual.

78. I often feel that I am aided by good luck.

79. It does not bother me to hold an opinion with which most others disagree.

80. Sometimes I think I am accident prone.

81. When I have done well on a test, it was often because the teacher "graded easy".

82. Whether or not I get into a car accident depends entirely on how good a driver I am.

83. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune.

84. I often find myself in trouble because of my lack of self control.

85. My pride in my accomplishments is not dependent on the reactions of others.
86. People are punished by God for their bad deeds.

87. A successful life generally depends on ability and hard work.

88. I know how to relax for a few minutes when I'm getting tense.

89. I feel like what happens in my life is largely determined by my superiors.

90. People can accomplish almost anything they want to if they try hard enough.

91. I have a bad habit such as smoking or drinking that I can't stop although I'd like to.

92. Luck plays a rather insignificant role in most people's lives.

93. Good things happen in my life because God looks favorably upon me.

94. Sometimes whether something turns out good or bad is just a matter of chance.

95. When I get sick, it's often because I haven't taken care of myself.

96. People shouldn't make decisions about their lives based on what others will think.

97. People should not challenge the religious beliefs they learned when they were young.

98. Almost anyone can break a bad habit if he wants to badly enough.

99. When I get what I want, it's usually because I'm lucky.

100. In order to get along, I have to be what people expect me to be.

101. Most people can make themselves attractive by proper attention to their bodies, hair, skin, and clothing.

102. At times I have been so angry that I just couldn't help saying things that I wouldn't ordinarily say.

103. I know I am to blame for many bad things that happen to me.
in our scientific and medical research, we must be careful not to go against God-given laws of life and death.

Getting what I want depends on pleasing people above me.

Sometimes an idea runs through my head and I can't stop thinking about it no matter how hard I try.

If someone studies hard enough, he/she can pass any subject.

I have often found that what is going to happen will happen.

Most of people's misfortunes are caused by other people.

Some people tend to be accident prone.

My life is determined by my own actions.

There is nothing as effective in bringing about happiness as faith in God.

When I make plans, I am almost certain I can make them work.

It is not essential that my parents approve of my lifestyle.

One of the best ways for people to handle problems is just not to think about them.

Sometimes I feel that I don't have enough control over the direction my life is taking.

Fate plays a greater part in our lives than most people seem to realize.

If a person can't find a job, it must be because he/she is not well qualified.

If things start out well in the morning, it's going to be a good day, no matter what I do.

I almost always keep control of my emotions.
Appendix B: Multidimensional Scale of Control
(Listed by Subscale)

**Overall-Subject (OVS)**

(T) 1. My accomplishments don't mean much until they are recognized by others.

*(T)* 2. I sometimes have a strong impulse to do something that I am unable to control.

*(F)* 5. I know I can accomplish anything if I set my mind to it.

(T) 6. If a black cat crosses my path, I expect something bad to happen.

(T) 8. When good things happen to me, it's because there are good people on my side.

*(T)* 10. When I get a craving to eat something, I usually give in and eat it.

(F) 11. I feel disappointed with myself when I haven't done as well as I might have.

(F) 12. I am usually able to make my plans work, regardless of how they fit in with those around me.

(F) 14. I can hide my feelings very well.

*(T)* 15. My life is in the hands of God who insures that things happen for my own good even if I don't understand them at the time.

(F) 17. I feel that I have never been aided by good luck.

*(T)* 19. Most of my personality is a result of heredity.

(F) 20. I am usually able to protect my personal interests.

*(T)* 21. Sometimes bad things have happened to me because my faith in God has wavered.

*(F)* 23. When something good happens to me, it is usually because I have worked hard for it.

*(F)* 25. It generally matters little to me what others think of me.
27. I often make impulsive decisions instead of carefully weighing all the facts.
28. I feel that I have never been victimized by bad luck.
30. I believe that wishing can make good things happen.
32. When I have done poorly in school, often it was because the teacher didn't like me.
33. I often get so angry I can't control myself.
34. All good things that happen to me are a result of my own doing.
36. I believe that God has an ultimate plan for my life.
38. I often get into trouble because I am in the wrong place at the wrong time.
40. I find it best to go along with what the majority want to do.
43. When I get upset about something, I usually know why and what to do about it.
45. Many times I feel I have little influence over the things that happen to me.
47. Most problems will solve themselves if I just don't fool with them.
48. When I am sexually excited, I feel I must engage in sexual activity even if the circumstances are inappropriate.
50. If I lose a game, my opponent was probably a better player than I.
51. I can usually stay healthy if I get the right food, sleep, and exercise.
52. I probably wouldn't pursue certain goals if I felt my parents would disapprove.
54. My moods swing back and forth a lot from high to low.
(F) 56. I am always to blame when something doesn't work out well for me.

(r) 57. I usually stick by my own decisions regardless of attempts by others to change my mind.

*(T) 58. If I find a four-leafed clover, I believe that it will bring me good luck.

(T) 60. Getting what I want sometimes requires pleasing those people above me.

(T) 61. I believe that God will ultimately reward me for my good deeds.

*(F) 63. In general, I do things deliberately, not impulsively.

(T) 64. I often feel that I am victimized by bad luck.

(T) 66. It matters a great deal to me what others think on me.

*(F) 68. I have my own code of behavior and I follow it strictly.

(F) 70. I can often change a person's mind by discussing things.

*(T) 74. I feel increasingly helpless in the face of what is happening in the world today.

*(r) 76. To get things I want, I rely more on my own abilities than on faith in God.

*(T) 78. I often feel that I am aided by good luck.

(F) 79. It does not bother me to hold an opinion with which most others disagree.

*(T) 80. Sometimes I think I am accident prone.

(T) 81. When I have done well on a test, it was often because the teacher "graded easy".

(F) 82. Whether or not I get into a car accident depends entirely on how good a driver I am.

*(T) 84. I often find myself in trouble because of my lack of self control.
85. My pride in my accomplishments is not dependent on the reactions of others.

88. I know how to relax for a few minutes when I'm getting tense.

89. I feel like what happens in my life is largely determined by my superiors.

91. I have a bad habit such as smoking or drinking that I can't stop although I'd like to.

93. Good things happen in my life because God looks favorably upon me.

95. When I get sick, it's often because I haven't taken care of myself.

99. When I get what I want, it's usually because I'm lucky.

100. In order to get along, I have to be what people expect me to be.

102. At times I have been so angry that I just couldn't help saying things I wouldn't ordinarily say.

103. I know I am to blame for many bad things that happen to me.

105. Getting what I want depends on pleasing people above me.

106. Sometimes an idea runs through my head and I can't stop thinking about it no matter how hard I try.

108. I have often found that what is going to happen will happen.

111. My life is determined by my own actions.

113. When I make plans, I am almost certain I can make them work.

114. It is not essential that my parents approve of my lifestyle.

116. Sometimes I feel that I don't have enough control over the direction my life is taking.
(T)119. If things start out well in the morning, it's going to be a good day, no matter what I do.

*(F)120. I almost always keep control of my emotions.

Overall-General (OVG)

(F) 2. People aren't born with natural athletic ability; they have to put in a great deal of effort to do well in sports.

(F) 7. What the world needs is more tolerance and reason, and less blind faith.

*(F) 9. The individual in this country has much influence on political and social decisions, though many people don't seem to realize it.

*(T) 13. People's lives are largely controlled by accidental happenings.

*(T) 16. A person's life is generally determined by influential people around him/her.

(T) 18. Problems often result from being in the wrong place at the wrong time.

(T) 22. It's nearly impossible to get ahead unless you please the people in power.

(F) 24. People could stay healthy all the time if they took proper care of themselves.

*(T) 26. Many of the unhappy things in people's lives are due to bad luck.

(T) 29. Many of the world's problems today are caused by God's wrath at people turning away from religion.

(F) 31. Anyone can learn how to interact with people and have good friends.

*(T) 35. This world is run by a few people in power and there is not much the little guy can do about it.

(F) 37. People who do well in school have usually studied hard.

(T) 39. People often do things as a result of impulses they can't control.
61

(F) 41. People can always get their own way if they just keep trying.

(T) 42. If someone loses a job, it's probably because his/her superiors didn't like him/her.

(T) 44. Winning or losing a game is usually a matter of chance.

*(F) 46. The idea that our lives are controlled by some kind of predestination is nonsense.

*(T) 49. Even at the local level, it is difficult for one person to influence political decisions.

*(T) 53. Sometimes accidents happen over which people have little control.

*(F) 55. We should worry less about God's will and more about what we can do about our problems.

(F) 59. People who are overweight can diet successfully by exercising will power.

(T) 62. Often there is no connection between how hard a person studies and the grades he/she receives.

(F) 65. Most people can change what might happen tomorrow by what they do today.

*(T) 67. Man cannot be trusted to manage his own affairs without God's help.

*(T) 69. Getting a good job depends mostly on being in the right place at the right time.

(F) 71. People's misfortunes usually result from the mistakes they make.

(T) 73. Being successful may rely in part on pleasing one's superiors.

*(T) 75. Many times we might just as well decide what to do by flipping a coin.

(T) 77. There will always be people fighting since aggression is largely instinctual.

*(T) 83. It is not always to plan too far ahead because many things turn out to be a matter of good or bad fortune.
62

(T) 86. People are punished by God for their bad deeds.

(F) 87. A successful life generally depends on ability and hard work.

(F) 90. People can accomplish almost anything they want to if they try hard enough.

*(F) 92. Luck plays a rather insignificant role in most people's lives.

*(T) 94. Sometimes whether something turns out good or bad is just a matter of chance.

(F) 96. People shouldn't make decisions about their life based on what others will think.

*(T) 97. People should not challenge the religious beliefs they learned when they were young.

(F) 98. Almost anyone can break a bad habit if he wants to badly enough.

(F) 101. Most people can make themselves attractive by proper attention to their bodies, hair, skin, and clothing.

*(T) 104. In our scientific and medical research, we must be careful not to go against God-given laws of life and death.

*(T) 107. If someone studies hard enough, he/she can pass any subject.

(T) 109. Most of people's misfortunes are caused by other people.

*(T) 110. Some people tend to be accident prone.

*(T) 112. There is nothing as effective in bringing about happiness as faith in God.

*(T) 115. One of the best ways for people to handle problems is just not to think about them.

*(T) 117. Fate plays a greater part in our lives than most people seem to realize.

(F) 118. If a person can't find a job, it must be because he/she is not well qualified.
External-Others (EO)

*(T) 1. My accomplishments don't mean much until they are recognized by others.

*(T) 8. When good things happen to me, it's because there are good people on my side.

(F) 12. I am usually able to make my plans work, regardless of how they fit in with those around me.

*(T) 16. A person's life is generally determined by influential people around him/her.

*(T) 22. It's nearly impossible to get ahead unless you please the people in power.

*(F) 25. It generally matters little to me what others think of me.

*(T) 32. When I have done poorly in school, often it was because the teacher didn't like me.

*(T) 35. This world is run by a few people in power and there is not much the little guy can do about it.

*(T) 40. I find it best to go along with what the majority want to do.

*(T) 42. If someone loses a job, it's probably because his/her superiors didn't like him/her.

(T) 52. I probably wouldn't pursue certain goals if I felt my parents would disapprove.

(F) 57. I usually stick by my own decisions regardless of attempts by others to change my mind.

(T) 60. Getting what I want sometimes requires pleasing those people above me.

*(T) 66. It matters a great deal to me what others think of me.

(T) 73. Being successful may rely in part on pleasing one's superiors.

*(F) 79. It does not bother me to hold an opinion with which most others disagree.

*(T) 81. When I have done well on a test, it was often because the teacher "graded easy".
*(F) 85. My pride in my accomplishments is not dependent on the reactions of others.

*(T) 89. I feel like what happens in my life is largely determined by my superiors.

*(F) 96. People shouldn't make decisions about their lives based on what others will think.

*(T)100. In order to get along, I have to be what people expect me to be.

*(T)105. Getting what I want depends on pleasing those people above me.

*(T)109. Most of people's misfortunes are caused by other people.

*(F)114. It is not essential that my parents approve of my lifestyle.

External-Chance (EC)

*(T) 4. Most students don't realize the extent to which their grades are influenced by accidental happenings.

(T) 6. If a black cat crosses my path, I expect something bad to happen.

*(T) 13. People's lives are largely controlled by accidental happenings.

*(T) 18. Problems often result from being in the wrong place at the wrong time.

*(T) 26. Many of the unhappy things in people's lives are due to bad luck.

(T) 30. I believe that wishing can make good things happen.

*(T) 38. I often get into trouble because I am in the wrong place at the wrong time.

*(T) 44. Winning or losing a game is usually a matter of chance.

*(T) 47. Most problems will solve themselves if I just don't fool with them.
58. If I find a four-leafed clover, I believe that it will bring me good luck.

64. I often feel that I am victimized by bad luck.

69. Getting a good job depends mostly on being in the right place at the right time.

75. Many times we might just as well decide what to do by flipping a coin.

78. I often feel that I am aided by good luck.

83. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune.

92. Luck plays a rather insignificant role in most people's lives.

94. Sometimes whether something turns out good or bad is just a matter of chance.

99. When I get what I want, it's usually because I'm lucky.

108. I have often found that what is going to happen will happen.

115. One of the best ways for people to handle problems is just not to think about them.

117. Fate plays a greater part in our lives than most people seem to realize.

119. If things start out well in the morning, it's going to be a good day, no matter what I do.

External-Religion (ER)

7. What the world needs is more tolerance and reason, and less blind faith.

15. My life is in the hands of God who insures that things happen for my own good even if I don't understand them at the time.

21. Sometimes bad things have happened to me because my faith in God has wavered.
*(T) 29. Many of the world's problems today are caused by God's wrath at people turning away from religion.

*(T) 36. I believe that God has an ultimate plan for my life.

*(T) 46. The idea that our lives are controlled by some kind of predestination is nonsense.

*(T) 55. We should worry less about God's will and more about what we can do about our problems.

*(T) 61. I believe that God will ultimately reward me for my good deeds.

*(T) 67. Man cannot be trusted to manage his own affairs without God's help.

*(T) 76. To get things I want, I rely more on my own abilities than on faith in God.

*(T) 86. People are punished by God for their bad deeds.

*(T) 93. Good things happen in my life because God looks favorably upon me.

(T) 97. People should not challenge the religious beliefs they learned when they were young.

*(T) 104. In our scientific and medical research, we must be careful not to go against God-given laws of life and death.

*(T) 112. There is nothing as effective in bringing about happiness as faith in God.

**External-Benevolent (EB)**

(T) 8. When good things happen to me, it's because there are good people on my side.

*(T) 15. My life is in the hands of God who insures that things happen for my own good even if I don't understand them at the time.

*(F) 23. When something good happens to me, it is usually because I have worked hard for it.

(T) 30. I believe that wishing can make good things happen.
34. All good things that happen to me are a result of my own doing.

37. People who do well in school have usually studied hard.

47. Most problems will solve themselves if I just don't fool with them.

58. If I find a four-leafed clover, I believe that it will bring me good luck.

61. I believe that God will ultimately reward me for my good deeds.

69. Getting a good job depends mostly on being in the right place at the right time.

78. I often feel that I am aided by good luck.

81. When I have done well on a test, it was often because the teacher "graded easy".

87. A successful life generally depends on ability and hard work.

93. Good things happen in my life because God looks favorably upon me.

99. When I get what I want, it's usually because I'm lucky.

105. Getting what I want depends on pleasing people above me.

112. There is nothing as effective in bringing about happiness as faith in God.

119. If things start out well in the morning, it's going to be a good day, no matter what I do.

External-Malevolent (EM)

6. If a black cat crosses my path, I expect something bad to happen.

11. I feel disappointed with myself when I haven't done as well as I might have.
18. Problems often result from being in the wrong place at the wrong time.

21. Sometimes bad things have happened to me because my faith in God has wavered.

26. Many of the unhappy things in people's lives are due to bad luck.

29. Many of the world's problems today are caused by God's wrath at people turning away from religion.

32. When I have done poorly in school, often it was because the teacher didn't like me.

38. I often get into trouble because I am in the wrong place at the wrong time.

42. If someone loses a job, it's probably because his/her superiors didn't like him/her.

50. If I lose a game, my opponent was probably a better player than I.

56. I am always to blame when something doesn't work out well for me.

64. I often feel that I am victimized by bad luck.

71. People's misfortunes usually result from the mistakes they make.

86. People are punished by God for their bad deeds.

95. When I get sick, it's often because I haven't taken care of myself.

103. I know I am to blame for many bad things that happen to me.

109. Most of people's misfortunes are caused by other people.

118. If a person can't find a job, it must be because he/she is not well qualified.

"External"-Impulsive (EI)

3. I sometimes have a strong impulse to do something that I am unable to control.
*(T) 10. When I get a craving to eat something, I usually give in and eat it.

(F) 14. I can hide my feelings very well.

*(T) 19. Most of my personality is a result of heredity.

*(T) 27. I often make impulsive decisions instead of carefully weighing all the facts.

*(T) 33. I often get so angry I can't control myself.

*(T) 39. People often do things as a result of impulses they can't control.

*(F) 43. When I get upset about something, I usually know why and what to do about it.

*(T) 48. When I am sexually excited, I feel I must engage in sexual activity, even if the circumstances are inappropriate.

*(T) 54. My moods swing back and forth a lot from high to low.

(F) 59. People who are overweight can diet successfully by exercising will power.

*(F) 63. In general, I do things deliberately, not impulsively.

*(T) 77. There will always be people fighting since aggression is largely instinctual.

*(T) 80. Sometimes I think I am accident prone.

*(T) 84. I often find myself in trouble because of my lack of self control.

(F) 88. I know how to relax for a few minutes when I'm getting tense.

*(T) 91. I have a bad habit such as smoking or drinking that I can't stop, although I'd like to.

(F) 98. Almost anyone can break a bad habit if he wants to badly enough.

*(T) 102. At times I have been so angry that I just couldn't help saying things I wouldn't ordinarily say.

*(T) 106. Sometimes an idea runs through my head and I can't stop thinking about it no matter how hard I try.
*(T) 110. Some people tend to be accident prone.

*(F) 120. I almost always keep control of my emotions.

Unrealistic Internal (UI)

*(T) 5. I know I can accomplish anything if I set my mind to it.

*(T) 17. I feel that I have never been aided by good luck.

*(T) 24. People could stay healthy all the time if they took proper care of themselves.

*(T) 28. I feel that I have never been victimized by bad luck.

*(T) 34. All good things that happen to me are a result of my own doing.

*(T) 41. People can always get their own way if they just keep trying.

*(F) 53. Sometimes accidents happen over which people have little control.

*(T) 56. I am always to blame when something doesn't work out well for me.

*(F) 60. Getting what I want sometimes requires pleasing those people above me.

*(F) 73. Being successful may rely in part on pleasing one's superiors.

*(T) 82. Whether or not I get into a car accident depends entirely on how good a driver I am.

*(F) 94. Sometimes whether something turns out good or bad is just a matter of chance.

*(F) 102. At times I have been so angry that I just couldn't help saying things I wouldn't ordinarily say.

*(T) 118. If a person can't find a job, it must be because he/she is not well qualified.

( ) scorable answer on subscale

* retained on subscale following item analysis
Appendix C: Rotter Internal-External Control Scale (I-E)

Select one of each of the following items which you feel is most true. This is a measure of personal belief; obviously there are no right or wrong answers. If you feel statement A is most true, blacken the column labeled A. If you feel statement B is most true, blacken the B column.

1. A. Children get into trouble because their parents punish them too much.
   B. The trouble with most children nowadays is that their parents are too easy with them.

2. *A. Many of the unhappy things in people's lives are partly due to bad luck.
   B. People's misfortunes result from the mistakes they make.

3. A. One of the major reasons why we have wars is because people don't take enough interest in politics.
   *B. There will always be wars, no matter how hard we try to prevent them.

4. A. In the long run people get the respect they deserve in this world.
   *B. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

5. A. The idea that teachers are unfair to students is nonsense.
   *B. Most students don't realize the extent to which their grades are influenced by accidental happenings.

6. *A. Without the right breaks one cannot be an effective leader.
   B. Capable people who fail to become leaders have not taken advantage of their opportunities.

7. *A. No matter how hard you try, some people just don't like you.
   B. People who can't get others to like them don't understand how to get along with others.

8. A. Heredity plays the major role in determining one's personality.
   B. It is one's experiences in life which determine what they're like.

9. *A. I have often found that what is going to happen will happen.
B. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

10. A. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
   *B. Many times exam questions tend to be so unrelated to course work that studying is really useless.

11. A. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
   *B. Getting a good job depends mainly on being in the right place at the right time.

12. A. The average citizen can have an influence in government decisions.
   *B. This world is run by the few people in power, and there is not much the little guy can do about it.

13. A. When I make plans I am almost certain I can make them work.
   *B. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14. A. There are certain people who are just no good.
   B. There is some good in everybody.

15. A. In my case getting what I want has little or nothing to do with luck.
   *B. Many times we might just as well decide what to do by flipping a coin.

16. *A. Who gets to be boss often depends on who was lucky enough to be in the right place first.
   B. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.

17. *A. As far as world affairs are concerned, most of us are the victims of forces we can neither understand nor control.
   B. By taking an active part in political and social affairs the people can control world events.

18. *A. Most people don't realize the extent to which their lives are controlled by accidental happenings.
   B. There is really no such thing as luck.

19. A. One should always be willing to admit mistakes.
   B. It is usually best to cover up one's mistakes.
20. *A. It is hard to know whether or not a person likes you.  
   b. How many friends you have depends upon how nice a 
      person you are.

21. *A. In the long run the bad things that happen to us 
       are balanced by the good ones.  
   B. Most misfortunes are the result of lack of ability, 
      ignorance, laziness, or all three.

22. A. With enough effort, we can wipe out political cor-
       ruption.  
   *B. It is difficult for people to have much control 
      over the things politicians do in office.

23. *A. Sometimes I can't understand how teachers arrive 
       at the grades they give.  
   B. There is a direct connection between how hard I 
       study and the grades I get.

24. A. A good leader expects people to decide for them-
       selves what they should do.  
   B. A good leader makes it clear to everybody what 
       their jobs are.

25. *A. Many times I feel I have little influence over 
       the things that happen to me.  
   B. It is impossible for me to believe that chance 
       or luck plays an important role in my life.

26. A. People are lonely because they don't try to be 
       friendly.  
   *B. There's not much use in trying too hard to please 
       people, if they like you, they like you.

27. A. There is too much emphasis on athletics in high 
       school.  
   B. Team sports are an excellent way to build character.

28. A. What happens to me is my own doing.  
   *B. Sometimes I feel that I don't have enough control 
       over the direction my life is taking.

29. *A. Most of the time I can't understand why politicians 
       behave the way they do.  
   B. In the long run the people are responsible for bad 
       government on a national as well as on a local level.

*scorable response (external direction)
Appendix D: Adult Nowicki-Strickland Internal-External Control Scale (ANS-IE)

Read each question and decide whether you feel it is true or not. This is a measure of personal belief; obviously there are no right or wrong answers. If you feel the answer to the question is yes, blacken the first column, labeled Y. If you feel the answer to the question is no, blacken the second column, labeled N.

1. Do you believe that most problems will solve themselves if you just don't fool with them?  
   (Y)

2. Do you believe that you can stop yourself from catching a cold?  
   (N)

3. Are some people just born lucky?  
   (Y)

4. Most of the time do you feel that getting good grades meant a great deal to you?  
   (N)

5. Are you often blamed for things that just aren't your fault?  
   (Y)

6. Do you believe that if somebody studies hard enough he or she can pass any subject?  
   (N)

7. Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway?  
   (Y)

8. Do you feel that if things start out well in the morning it's going to be a good day no matter what you do?  
   (N)

9. Do you feel that most of the time parents listen to what their children have to say?  
   (Y)

10. Do you believe that wishing can make good things happen?  
    (Y)

11. When you get punished does it usually seem it's for no good reason at all?  
    (Y)

12. Most of the time do you find it hard to change a friend's (mind) opinion?  
    (N)

13. Do you think that cheering more than luck helps a team to win?  
    (Y)

14. Did you feel that it was nearly impossible to change your parent's mind about anything?  
    (Y)
15. Do you believe that parents should allow children to make most of their own decisions?

16. Do you feel that when you do something wrong there's very little you can do to make it right?

17. Do you believe that most people are just born good at sports?

18. Are most of the other people your age stronger than you are?

19. Do you feel that one of the best ways to handle most problems is just not to think about them?

20. Do you feel that you have a lot of choice in determining whom your friends are?

21. If you find a four leaf clover, do you believe that it might bring you good luck?

22. Did you often feel that whether or not you did your homework had much to do with what kind of grades you got?

23. Do you feel that when a person your age is angry at you, there's little you can do to stop him or her?

24. Have you ever had a good luck charm?

25. Do you believe that whether or not people like you depends on how you act?

26. Did your parents usually help you if you asked them to?

27. Have you felt that when people were angry at you it was usually for no reason at all?

28. Most of the time, do you feel that you can change what might happen tomorrow by what you do today?

29. Do you believe that when bad things are going to happen they are just going to happen no matter what you try to do to stop them?

30. Do you think that people can get their own way if they just keep trying?

31. Most of the time do you find it useless to try to get your own way at home?
(N) 32. Do you feel that when good things happen they happen because of hard work?

(Y) 33. Do you feel that when somebody your age wants to be your enemy there's little you can do to change matters?

(N) 34. Do you feel that it's easy to get friends to do what you want them to do?

(Y) 35. Do you usually feel that you have little to say about what you get to eat at home?

(Y) 36. Do you feel that when someone doesn't like you there's little you can do about it?

(Y) 37. Did you usually feel that it was almost useless to try in school because most of the other children were just plain smarter than you are?

(N) 38. Are you the kind of person who believes that planning ahead makes things turn out better?

(Y) 39. Most of the time, do you feel that you have little to say about what your family decides to do?

(N) 40. Do you think it's better to be smart than to be lucky?

( ) scorable response (external direction)
Appendix E: Marlowe-Crowne Social Desirability Scale (MCSDS)

Answer each of the items below as it pertains to you personally. If you feel the answer is true, blacken the first column, labeled T. If you feel the answer is false, blacken the second column, labeled F. Please answer all items.

(T) 1. Before voting I thoroughly investigate the qualifications of all the candidates.

(T) 2. I never hesitate to go out of my way to help someone in trouble.

(F) 3. It is sometimes hard for me to go on with my work if I am not encouraged.

(T) 4. I have never intensely disliked someone.

(F) 5. On occasion I have had doubts about my ability to succeed in life.

(F) 6. I sometimes feel resentful when I don't get my way.

(T) 7. I am always careful about my manner of dress.

(T) 8. My table manners at home are as good as when I eat out in a restaurant.

(F) 9. If I could get into a movie without paying and be sure I was not seen I would probably do it.

(F) 10. On a few occasions, I have given up doing up something because I thought too little of my ability.

(F) 11. I like to gossip at times.

(F) 12. There have been times when I felt like rebelling against people in authority even though I knew they were right.

(T) 13. No matter who I'm talking to, I'm always a good listener.

(F) 14. I can remember "playing sick" to get out of something.

(F) 15. There have been occasions when I took advantage of someone.

(T) 16. I'm always willing to admit it when I make a mistake.
(T) 17. I always try to practice what I preach.

(T) 18. I don't find it particularly difficult to get along with loud mouthed, obnoxious people.

(F) 19. I sometimes try to get even rather than forgive and forget.

(T) 20. When I don't know something I don't at all mind admitting it.

(T) 21. I am always courteous, even to people who are disagreeable.

(F) 22. At times I have really insisted on having things my own way.

(F) 23. There have been occasions when I felt like smashing things.

(T) 24. I would never think of letting someone else be punished for my wrongdoings.

(T) 25. I never resent being asked to return a favor.

(T) 26. I have never been irked when people expressed ideas very different from my own.

(T) 27. I never make a long trip without checking the safety of my car.

(F) 28. There have been times when I was quite jealous of the good fortune of others.

(T) 29. I have almost never felt the urge to tell someone off.

(F) 30. I am sometimes irritated by people who ask favors of me.

(T) 31. I have never felt that I was punished without cause.

(F) 32. I sometimes think when people have a misfortune they only got what they deserved.

(T) 33. I have never deliberately said something that hurt someone's feelings.

( ) scorable response (socially desirable direction)