To the Graduate Council:

I am submitting herewith a dissertation written by Gordon D. Schneider entitled "The Development of an Instrument to Distinguish Adaptive From Nonadaptive Perceptions of Personal Control." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Ph.D., with a major in Education.

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and recommend its acceptance:

Accepted for the Council:

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THE DEVELOPMENT OF AN INSTRUMENT TO DISTINGUISH ADAPTIVE FROM NONADAPTIVE PERCEPTIONS OF PERSONAL CONTROL

A Dissertation

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ABSTRACT

This study represents an initial attempt to develop a personal control scale that distinguishes one's sense of control over external and intrapersonal events assumed to be highly controllable by the individual from events typically viewed as uncontrollable at an individual level. It was hypothesized that the more remote events are from one's personal purview, the greater the likelihood that perceived control over these events would be nonadaptive. On the other hand, perceived control over events that are truly controllable by an individual would likely be adaptive.

The study had three broad objectives: (1) identify clusters reflecting different levels of controllability within the newly designed scale; (2) evaluate convergent validity of these clusters via comparisons with Rotter's I-E Scale; (3) evaluate concurrent and discriminant validity of these clusters by assessing relationships between the clusters and other psychological measures and demographic variables.

A sample of 763 adults indicated the extent to which they could influence 72 life events or

circumstances initially included in the new scale. Through a series of factor analyses, the new instrument (entitled the Personal Influence Form) was reduced to 34 items reflecting two broad conceptual factors. One factor represented events that would be highly controllable by most individuals and the second factor events that largely transcend individual control.

The high control factor consisted of five quantitative clusters that related to the following types of life events: longevity, drug abuse, job status, close personal relationships, and general interpersonal events. In contrast, the low control factor consisted of only one quantitative cluster. Scores on the composite high and low control factors were not significantly related to each other. However, the high control clusters pertaining to longevity and job status were positively correlated with the low control total whereas the cluster pertaining to substance abuse was negatively correlated with the low control total. The correlation between close personal relationships and the low control total was not significant.

The high control total yielded a -.26 r ($p <$

.0001) with the Rotter, while the low control factor evidenced a near zero (r = .01) correlation with the Rotter. Concurrent validity was supported by the relationships between the high control clusters and measures of self-efficacy and perceived stress. The low control factor was only minimally related to these comparison variables. The item means for demographic subgroups were examined to evaluate the discriminant validity of the high and low control factors. No systematic associations between the factors and the demographic dimensions were anticipated, nor were they found. Both factors evidence high internal consistency and neither was related to the Marlowe-Crowne measure of social desirability.

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CHAPTER I

INTRODUCTION

Locus of control is among the most researched and respected concepts in contemporary psychology. In his 1989 APA Award Address, Julian Rotter (the pioneering influence in locus of control research) noted that research on the variable continues at approximately the same high rate as it did 20 years ago (Rotter, 1990). In general, an internal locus of control has been positively related to measures of physical and psychological health. Individuals who perceive the events in their lives as largely under their control (internals) function more effectively than those (externals) who perceive life events as largely controlled by factors outside themselves (Strickland, 1989).

Questions have been raised regarding the presumed linearity between internality and life style effectiveness (e.g., Gilbert & Mangelsdorff, 1979; Krause & Stryker, 1984). Some research now indicates that extreme internality contributes to stress, thus reducing one's life style effectiveness. It appears that a moderate level of internality may be more

functional than either externality or extreme internality. In a study of psychological well-being in older adults, Krause (1986) found that extreme internality and extreme externality did not mediate stressful life events as well as moderate internality. However, extreme internality did appear to be more adaptive than extreme externality. In a study on learned helplessness, Litt (1988) found that the effects of stress are reduced if the subject can attribute the stress to external causes rather than to personal inadequacies.

Rotter (1966, 1975) was the first to suggest that internality is related to adjustment in a curvilinear rather than a linear fashion. He proposed that degree of control is on a continuum, ranging from external to internal locus of control. He hypothesized that individuals with a moderate level of internality could cope with stressful events better than individuals at either extreme on this continuum. His theory also proposed that overt behavior is affected not only by the perceived control of events but also by the reinforcement value of those events.

Phares (1976) has made essentially the same argument as Rotter regarding extremes in internality. A sense of personal responsibility for too many situations may lead to anxiety and depression. Antonovsky (1979) has used the term "hysterical rigidity" to describe extreme internals. In this vein, Wortman (1976) has shown that individuals extremely high in internality find uncontrollable events particularly stressful. Such individuals often fail to recognize when events are uncontrollable and intensify their efforts to control these events, leading possibly to frustration, guilt, and self-blame.

Previous studies supporting a curvilinear relationship between internality and adjustment have explained internality primarily in quantitative terms. Typically, individuals scoring at least one standard deviation beyond the inventory mean (usually the Rotter or Levenson Scale) are classified either as extreme internals or extreme externals. Thus, extreme internality is a matter of degree of internality as measured by the standard locus of control scales.

The one instrument specifically designed to determine a maladaptive level of internality is the

Belief in Personal Control Scale (Berrenberg, 1987). This instrument includes an Exaggerated Internal Control (EIC) factor that presumably measures extreme and unrealistic beliefs in personal control over both external and intrapersonal events. However, the validity assessment of this factor has produced mixed results. It correlated positively with a measure of mania, as one might expect, but it also correlated positively with self-esteem and social desirability measures. In fact, the EIC factor correlated negatively with anxiety, depression, and Rotter's external locus of control measure. Moreover, with the exception of the correlation with mania, the EIC factor correlated in much the same way with comparison variables as did a general control factor in the scale.

A mediating variable in the relationship between internality and adjustment may be the type of event one presumes to control. If an event is essentially uncontrollable, internality with respect to such an event might be quite nonadaptive. Consequently, typology of event may be a critical variable in differentiating adaptive from nonadaptive internality. For example, it might be quite adaptive to assume that

one has considerable control over personal events (e.g., one's health or one's job) but nonadaptive to assume that one has much control over events removed from one's personal purview (e.g., events in others' lives or international events). Notwithstanding the importance of the typology issue, virtually no attempt has been made in the assessment of locus of control to differentiate categories of events that are generally uncontrollable from those that are highly controllable. Extreme internality may be nonadaptive only with respect to essentially uncontrollable events, not highly controllable events in one's life.

The current study represents an initial attempt to develop a personal control scale that differentiates one's sense of control over external and intrapersonal events that are highly controllable from events typically viewed as uncontrollable by the individual. It was hypothesized that the more remote events are from one's personal influence (e.g., acts of nature, international events), the greater the likelihood that perceived control over those events would be nonadaptive (i.e., negatively related to positive

measures of mental health and positively related to an indicator of distress).

CHAPTER II

REVIEW OF THE LITERATURE

A brief review of the literature regarding the development of the locus of control construct and other theoretical orientations regarding control follows in this section. Specifically, Rotter's locus of control concept is contrasted with deCharms' personal causation concept as each relates to the issue of adaptive versus nonadaptive perception of control. Other variables related to personal control (i.e., self-efficacy and stress) that were assessed in this study are also briefly examined in this literature review.

Locus of Control

The concept of internal versus external control of reinforcement developed out of social learning theory (Rotter, 1954; Rotter, Chance, & Phares, 1972). For Rotter there were four classes of variables in social learning theory: behaviors, expectancies, reinforcements, and psychological situations (1975). His theory suggested that behavior is a function of expectancy and reinforcement value in a specific situation. His equal emphasis upon value, expectancy of reinforcement, and situational specificity helped to

distinguish Rotter's theory from learning theories that tend to emphasize only the value or motive end of predictive formulas (Lefcourt, 1982). Basically, Rotter combined reinforcement theory and cognitive or field theories in his formulation for predicting behavior at a specific time and place. His formula reads as follows:

$$BPx_1, s_1, r_a = f(Ex_1, r_a, s_1, \& RVa_1, s_1)$$

> The potential for Behavior x to occur, in Situation 1 in relation to Reinforcement a, is a function of the expectancy of the occurrence of Reinforcement a, following Behavior x in Situation 1, and the value of Reinforcement a in Situation 1 (Rotter, 1955, p. 255).

The place of perceived control within social learning theory is underscored in his more generalized formula of behavioral probability:

$$NP=f(FM \& NV)$$

> The potentiality of occurrence of a set of behaviors that lead to the satisfaction of some need (need potential) is a function of the expectancies that these behaviors will lead to these reinforcements (need value).

> It is with the term freedom of movement that we approach the location of the locus of control construct in social learning theory (Lefcourt, 1982, p. 33).

Rotter defines freedom of movement as "the mean expectancy of obtaining positive satisfactions as a result of a set of related behaviors directed toward the accomplishment of a group of functionally related reinforcements. A person's freedom of movement is low if he has a high expectancy of failure or punishment as a result of the behaviors with which he tries to obtain the reinforcements that constitute a particular need" (Rotter, 1954, p. 194). In essence, freedom of movement is a generalized expectancy of success resulting from one's ability to remember and reflect upon a lifetime of specific expectancy behavior-outcome sequences.

The specific concept of locus of control has been described by Rotter in the following terms:

> When a reinforcement is perceived by the subject as following some action of his own but not being entirely contingent upon his action, then, in our culture it is typically perceived as the result of

> luck, chance, fate, as under the control of powerful others, or as unpredictable because of the great complexity of the forces surrounding him. When the event is interpreted in this way by an individual, we have labeled this a belief in external control. If the person perceives that the event is contingent upon his own behavior or his own relatively permanent characteristics, we have termed this a belief in internal control (Rotter, 1966, p. 1).

Thus, the potential for a behavior to occur in any specific psychological situation is a function of (a) the expectancy that the behavior will lead to a particular reinforcement in that situation and (b) the value of that reinforcement (Rotter, 1975).

The locus of control construct rapidly became one of the most widely used concepts in contemporary psychology. Rotter's 1966 monograph describing the development of his I-E Scale was the most widely cited article in the published social science literature of 1969 to 1977, being cited more than twice as often as any other article (Garfield, 1978). According to the February 1, 1982 issue of Current Contents, Rotter's

1966 monograph was cited over 2,735 times (Wong & Sproule, 1984). By 1990, the 1966 article had been cited at least 4,700 times (Rotter, 1990).

Research employing Rotter's I-E Scale has found that individuals with an internal sense of control are more likely to take responsibility for their actions than individuals with an external sense of control (Davis & Davis, 1972; Phares, Wilson, & Klyver, 1971). Internals perceive themselves as more capable of controlling reinforcements and also prefer personal control to a larger extent than do externals. Therefore, internals not only perceive more personal control, but also want more personal control than externals (Wong & Sproule, 1984).

Rotter (1966, 1975) has suggested two possible reasons for choosing external alternatives on the I-E Scale, one of which is ego-defensiveness. If one attributes negative outcomes to external forces beyond his/her control, then s/he is free from blame or responsibility. According to Rotter (1975), this defensive externality may not differ from internality in the area of achievement motivation or striving for mastery. Prociuk and Breen (1975) indicated that

defensive externals may be identified as those individuals who believe that powerful others are responsible for their reinforcements but tend to behave somewhat similarly to internals, behaving as though that reinforcement is primarily obtained through their own effort.

The other explanation for choosing external alternatives is that the individual believes that he or she has little or no control over what is going on, regardless of the outcome (success or failure). This type of individual is usually referred to as a passive or congruent external, who generally has little achievement motivation and exhibits performance deficits. Congruent externals believe that their level of academic performance is determined by chance, luck, or fate (Prociuk & Breen, 1975).

Rotter (1975) has identified a number of problems and misconceptions related to the construct of internal versus external control of reinforcement. He indicated that the most frequent conceptual problem was the failure of many investigators to treat reinforcement value as a separate variable. He believed that one must either control reinforcement value or measure it

and systematically take it into account in making a locus of control predictions (Rotter, 1975). Another problem was that of specificity vs. generality, particularly in studies where people predicted achievement behavior or performance in achievement situations (Rotter, 1975). A third problem was the intrusion of the "good guy-bad guy" dichotomy where psychologists quickly assumed that it was good to be internal and bad to be external (Rotter, 1975).

It is important to determine exactly what the I-E Scale measures. The scale was developed as a broad gauge instrument -- to allow for a low degree of prediction of behavior across a wide range of potential situations -- not as an instrument to allow for very high prediction in some specific situation (Rotter, 1975).

The scale was also intended to be an unidimensional rather than a multi-dimensional measure of locus of control. However, researchers have questioned whether there were subscales within the I-E Scale and whether the concept itself should be broken down into more specific subconcepts (Rotter, 1975).

Because Rotter's I-E Scale has been utilized extensively in social science research, it has been subjected to considerable scrutiny by fellow researchers. Mirels (1970) factor analyzed the responses of 316 Introductory Psychology students and found two separate and meaningful factors. The first factor appeared to measure an I-E dimension where people agree or disagree that luck, fate, and fortune determine one's personal goals, achievements and outcomes. The second factor appeared to center on people's beliefs in their ability or inability to affect social-political powers. Mirels believed that the two dimensions differed in terms of the "target" of control (1970). Mirels' findings were replicated by MacDonald and Tseng in 1971, Minton in 1972, and Reid and Ware in 1973.

Reid and Ware (1973) described the factor regarding luck, fate, or fortune as the Fatalism dimension of I-E, and the factor concerned with social-political influence as Social System Control (SSC). In contrast to Mirels, Reid and Ware (1973) emphasized the "source" of control as being the main distinction between the Fatalism and SSC dimension. The source of

control or controlling agent was luck, chance or fortune for the Fatalism dimension, and government, social institutions, and social forces for the SSC dimension. For Reid and Ware, the individual is the target of control in both dimensions, because these external agents were emphasized as sources of control.

Reid and Ware (1974) found that belief in self control differed from both belief in chance determinants of one's outcomes and expectations of control by social-political forces in society. For example, a person with a strong sense of social alienation (Seeman, 1959) may still retain a strong internal sense of self-control, even though he has a very external score on both the Fatalism and SSC dimension (Reid & Ware, 1974).

Reid and Ware recommended that additional research was necessary to establish the existence of differentiation across a variety of behavioral categories. Gurin, Gurin, Lao, and Beattie (1969) indicated that their subjects made a distinction between "personal control," which is control over one's own life, and "control ideology," which consists of

general beliefs about the role of internal and external forces in determining success and failure in the culture. However, both of their factors reflected almost entirely chance or fatalistic determinants of behavior. The subjects were able to differentiate between chance determinants of self and chance determinants of other people (Reid & Ware, 1974).

According to Barry Collins (1974), Rotter's perspective ignores the particular aspect of internal attributions versus situational attributions. Collins indicated that an observer of someone else's behavior believes that rewards and punishments for that person are predictable. Therefore, an observer bases his predictions on (a) dispositional attributes of the person involved or (b) attributes of the environmental context in which the response occurs (Collins, 1974).

Collins found four distinct themes superimposed on the common theme of internal-external control of reinforcement (Collins, 1974). Collins stated:

> A person scoring at the external end of the I-E scale believes that (a) the reinforcement schedule in his world is complex and different - that is, he lives in a difficult world; (b) effort and

> ability are generally unrewarded - that is, he lives in an inequitable, unjust world; (c) his environment is programmed with a random reinforcement schedule--that is, he lives in a lucky world; or (d) government is unresponsive. From Rotter's theoretical perspective the four types of externality are functionally equivalent. Any one of the beliefs (it is a difficult world; it is an unjust world; it is a random world; it is a politically unresponsive world) would inhibit coping and lower self-esteem. Each of the four reasons would lead the respondent to conclude, "There's no point in trying; it wouldn't make any difference if I did." But these four sources of control are distinguishable and relatively uncorrelated (Collins, 1974, p. 387).

In 1981, Lowery also indicated that there were limitations to the predictive power of the LOC construct. She encouraged nurses to be aware of the frequent misapplications of LOC, to realize the limitations of the I-E Scale, and to consider the multidimensional attribution theory as more appropriate to understanding behavior than LOC.

Other Theoretical Orientations Regarding Control

A review of the related literature reveals that the personal control construct is figural not only in social learning theory, but also in attribution and personal causation theory. Social learning theory (Rotter, 1954) and attribution theory (Heider, 1958) have very different origins. Social learning theory made use of concepts from reinforcement theory to provide an explanation of clinical phenomena. In contrast, attribution theory uses concepts from "everyday life" to provide an analysis of social perception.

Attribution theorists believe that future behavior is in part determined by perceived causes of past events. Success and failure in achievement-related contexts are seen as chiefly caused by ability, effort, difficulty of the task, and luck (Frieze, 1973, Heider, 1958; Weiner et al., 1971). There are many other perceived causes of success and failure, such as mood, illness, fatigue, and bias, that will not be addressed in this review.

The perceived causes of achievement outcomes can be classified under a few basic causal dimensions.

Attribution theorists contend that these dimensions represent the causal concepts actually used in "everyday life," concepts which Schutz labelled "second order concepts" (1967, p. 59). One such dimension already introduced is locus of control: causes are either internal to the person (e.g., ability, effort, mood) or are external (e.g., task difficulty, luck, bias). A second causal dimension has been labeled "stability" or "relative endurance." Some causes such as ability, task difficulty, and bias are perceived as relatively stable, whereas other causes, such as effort, luck, and mood are subject to moment-to-moment or periodic fluctuations. Then, ability is an internal, stable cause; effort and mood are internal but unstable; task difficulty and bias are generally perceived as external and stable; and luck is an external, unstable cause of success and failure (Weiner, Nierenberg, & Goldstein, 1976).

Weiner argues that the stability of a cause, rather than its locus of control, determines expectancy shifts (Weiner et al., 1971; Weiner, 1972, 1974). That is, if the conditions (the presence or absence of causes) are expected to remain the same (such as one's

level of ability, the difficulty of the task, or the bias of the teacher), then the outcome experienced on past occasions will be expected to recur (Mischel, Jeffery, & Patterson, 1974). Therefore, a success should produce relatively large increments in the anticipation of future success, and a failure should strengthen the belief that there will be subsequent failures. On the other hand, if the causal conditions are perceived as likely to change (such as the amount of effort expended, the luck encountered, or one's mood state), then the current outcome may not be expected to repeat itself in the future. When causal conditions are perceived as changeable, a success should yield relatively small increments or perhaps even decrements (atypical shifts) in the expectancy of subsequent success, while a failure need not necessarily intensify the belief that there will be future failures (Weiner, Nierenberg, and Goldstein, 1976).

In clarifying the linkage between locus and stability in prior research, Weiner, et al. (1976) stated:

> The attributional analysis of expectancy shifts is consistent with the data reported

> by James (1965), Phares (1957), Rotter, Liverant, and Crowne, (1961) and others. In these prior investigations expectancy shifts are compared between skill and luck experimental conditions. Skill (ability) is an internal, stable cause, whereas luck is an external, unstable cause. Therefore, the two dimensions of causality are linked whereas the differential expectancy shifts displayed in these prior investigations can be logically attributed to either the locus of control or the stability dimension of causality (pp. 56-57).

Several studies have been conducted to separate the two causal dimensions and relate expectancy shifts to both locus of control and causal stability. The results of these studies support the attributional conception and contradict the predictions from social learning theory. The stability of causal attributions, rather than their locus of control, was related to expectancy of success (Fontaine, 1974; McMahan, 1973; Rosenbaum, 1972; Valle, 1974, Weiner et al., 1976).

Richard deCharms' work focuses on "personal causation," a somewhat similar construct to locus of

control. Richard deCharms (1972) defines personal causation as "the initiation by an individual of behavior intended to produce a change in his environment. When a person initiates intentional behavior, he experiences himself as having originated the intention and the behavior. He is the locus of causality of the behavior and he is said to be intrinsically motivated. Since he himself is the originator, we refer to the person as an origin" (p. 96).

When something external to the person compels one to exhibit a particular behavior, s/he experiences himself/herself as the instrument of the outside source, and the outside source is the locus of causality. The person is said to be extrinsically motivated. Because the person is compelled from an outside source, s/he is referred to as a pawn. Pawns see themselves as pushed around by outside forces. Conversely, others can be referred to as origins, implying that they characteristically see themselves as originating their own behavior (deCharms, 1972, 1981).

The similarity of deCharms' origin-pawn dimension with that of internal-external control is obvious,

though there are shades of differences between them. Where locus of control concentrates on the perception of contingencies between actions and outcomes, the origin-pawn dimension focuses more upon the perception of one's self as a subject or object of actions. Intrapersonal events (i.e., one's own actions) represent the focus of causality in the personal causation model, whereas external events represent the focus of causality in the locus of control model.

Heider (1958) indicated that "attributions and cognitions are influenced by the more subjective forces of needs and wishes as well as by the more objective evidence presented in the raw material" (120-121). Therefore, a difference in locus of control beliefs may reflect different amounts of influence by one's own desires for control. With this interpretation, Rotter's I-E Scale measures not only one's interpretation of experiences but possibly also one's ideals, wishes, and desires. Therefore, some individuals may distort all their interpretations of reality because their ideals have such a dominant influence. This does not mean that the I-E Scale measures idealism-realism, but the interpretation of

Rotter's internality score must be moderated by idealism-realism considerations.

In regards to desire for control, Burger and Cooper (1979) developed a scale to assess individual differences in the motivation to control events. The Desirability of Control (DC) Scale was designed to measure general differences in the motivation to control the events in one's life. The DC Scale asks subjects to indicate the extent to which they agree with items describing a high or low desire to control twenty general and specific situations (e.g., "I prefer to avoid situations where someone else has to tell me what it is I should be doing"). Factor analyses indicate that the scale measures five general factors: a general desire to control events, a desire to make one's own decisions, a desire to be prepared for situations, a desire to avoid dependence on others, and a desire for leadership. Subjects' scores on the DC Scale have been found to account for significant proportions of variance in gambling (Burger & Cooper, 1979), learned helplessness (Burger & Arkin, 1980), and attitude change (Burger & Vartabedian, 1980). Research on the scale has also demonstrated adequate

psychometric properties in terms of internal consistency, test-retest reliability, and convergent validity (Burger & Cooper, 1979).

Another issue that has arisen in the personal control literature is the emotional impact of perceptions of personal control. Apparently, people do not always have a positive affective response when they perceive themselves as having increased personal control (Burger, Brown, & Allen, 1983; Miller, 1980; Rodin, Rennert, & Solomon, 1980). Perceptions of control not only lead to an increase in feelings of general mastery and motivation but also increase concerns about self-presentation. This latter notion means that when people are given increased control over an event, they also are perceived as having increased responsibility for the subsequent outcomes of the event.

Burger (1989) indicated that when people become aware of a change in their level of control, they mentally calculate the advantages and disadvantages that may result from this change. He believed that this mental calculation did not necessarily take place at a high level of awareness. He provided evidence

that both situational and individual difference variables play a role in the assessment of the potential effects of increased control. He stated,

> Personal control will be seen as less desirable when it (a) leads to an uncomfortable level of concern for self-presentation, (b) decreases the likelihood that the person will be able to achieve desired outcomes, or (c) leads to an increase in predictability that draws the person's attention to the aversive aspects of the situation (Burger, 1989, p. 247).

Conceptual Relationship Between Personal Control and Selected Mental Health Indicators

This section addresses the theoretical relationships between personal control and two mental health indicators, self-efficacy and stress. A significant body of research has been generated with regard to both these variables, and a theoretical connection with LOC has been established.

Self-Efficacy

Cognitions relevant to personal control contribute to psychological adjustment and physical health

(Bandura, 1986; Lefcourt, 1981, 1982; Strickland, 1978; Taylor & Brown, 1988). In addition to locus of control and personal causation, the concept of self-efficacy (Bandura, 1977) is fundamental to the issue of personal control. Self-efficacy may be defined as a belief in one's capabilities to execute required behaviors (Bandura, 1977; Sherer, et al, 1982). Self-efficacy and LOC evolved out of a social learning perspective and, therefore, are conceptually related.

According to self-efficacy theory, there are two types of expectancies that control behaviors: outcome expectancies and self-efficacy expectancies. Outcome expectancies refer to beliefs that particular types of behaviors will lead to particular outcomes. This concept is basically synonymous with LOC. Self-efficacy expectancies refer to beliefs that one has the ability to behave in such a way as to produce desirable outcomes. Inasmuch as it relates to perceived control over one's actions, high self-efficacy would seem to be consistent with deCharms' notion of origin for one's actions. Bandura (1977) stated that self-efficacy expectations interact with, but are independent of, outcome expectancies. Other factors being equal, self-

efficacy expectancies are the primary causal factors in behavior change, because efficacy expectancies influence the decision to perform any given behavior, the amount of effort expended, and persistence under adverse circumstances (Bandura, 1977).

Bandura (1977, 1986) asserts that self-efficacy expectancies vary along three major dimensions: (1) magnitude or level - a person's estimate of his or her best possible performance of a given behavior; (2) strength - a person's confidence that he or she can perform at a given level; and (3) generality - some experiences create specific mastery expectations, while others provide a sense of efficacy that extends beyond the specific situation. Most research on self-efficacy has concentrated on the magnitude and strength dimensions (Smith, 1989).

A belief that one has the ability to perform the needed behavior (self-efficacy) is strongly related to a belief in internal control. Bandura (1977) indicated that personal mastery experiences enhance self-efficacy only if the success is attributed to skill or effort (internal orientation), not to luck or chance factors (external orientation). In fact, LOC was one of the

dimensions used to assess construct validity in the development of the Self-Efficacy (SE) Scale (Sherer et al., 1982). Sherer and associates reported a moderate correlation between total LOC score and self-efficacy. Because the Rotter scale is scored in the direction of externality and the SE Scale is scored in the direction of higher self-efficacy, the correlation was negative. The correlational relationship between the SE and the Personal Control subscale of the Rotter (Gurin, Gurin, Lao, & Beattie, 1969) was also found to be a moderately negative.

Theoretical relationship between self-efficacy and LOC established in prior research provides rationale for the use of self-efficacy in evaluating the concurrent validity for the PIF instrument. At the very least, perception of control over highly controllable events should be related to measures of self-efficacy.

Stress

The concept of stress is also intimately related to the issue of control. In fact, stress is often precipitated by a perception that the events in one's life are out of control. The stressed individual may

feel overwhelmed both by the magnitude and unpredictability of events in his or her life. Thus, it would seem reasonable that a perception of control over truly controllable events in one's life would mitigate stress. On the other hand, perception of control over essentially uncontrollable events might intensify stress.

The cognitive theory of stress can be viewed as both relational and process oriented. The definition of stress is relational between the person and the environment, and is considered by the individual as taxing or exceeding his or her resources and as endangering his or her well-being. In this definition, stress is not a stimulus or a response, nor is it a characteristic of the person or the environment. It is the specific relationship between the person and the environment. It is process oriented in that the person and environment are in a dynamic relationship. The constant change is bi-directional with the person and environment influencing each other (Folkman, 1984).

The relational orientation interprets control as unique to the particular person-environment relationship in which it is embedded. Many researchers

investigating the relationship between personal control and outcomes have concluded that perceptions of control are specific to situational events (Averill, 1973; Bulman & Wortman, 1977; Lefcourt, 1976; Mills & Krantz, 1979; Thompson, 1981; Wortman & Brehm, 1975). The process perspective means that perceptions of personal control are likely to change during a stressful encounter as a result of shifts in the person-environment relationship.

To understand how personal control affects stress, it is necessary to understand the importance or the meaning of the event to the individual (Averill, 1973; Bulman & Wortman, 1977; Thompson, 1981; Wortman & Brehm, 1975). In 1973, Averill made the following statement:

> It is evident that no simple relationship exists between personal control and stress. About the only general statement which can be made with confidence is that the stress-inducing or stress-reducing properties of personal control depend upon the meaning of the control response to the individual; and what lends a response meaning is largely

the context in which it is embedded (p. 301).

According to Averill's theoretical orientation, the meaning of the event is determined by cognitive appraisal processes. There are two types of appraisal: primary appraisal, referring to a person's evaluation of the importance of a specific transaction with respect to well-being; and secondary appraisal, referring to that individual's evaluation of coping resources and options (Folkman, 1984).

A primary appraisal is influenced by many personal and situational factors; however beliefs and commitments are the most important personal factors. Beliefs function as a perceptual lens, or set, in which to view the world and help to determine how things are in a specific person-environment transaction (Folkman, 1984). Generalized beliefs about control are among those beliefs that most influence primary appraisal. Such beliefs have their greatest influence when a situation is ambiguous or novel. A person with an internal locus of control might appraise a situation as controllable when the situation is highly ambiguous, whereas a person with an external locus of control might appraise it as uncontrollable. However, Rotter

(1966, 1975) indicated that judgements about controllability would be influenced more by situational characteristics than by generalized beliefs.

Secondary appraisal consists of the evaluation of coping resources and options. Coping resources include physical, social, psychological, and material assets, and are evaluated with respect to the demands of the situation. Also included in secondary appraisal is a situational appraisal of control, a person's judgement about the possibilities for control in a specific situation (Folkman, 1984). Situational appraisals of control are generally complex and difficult to evaluate. Rothbaum, Weisz, and Snyder (1982) indicated that in studies that manipulate controllability, even though the subjects may appear to be giving up situational control, they may, in fact, be attempting to control personal feelings of disappointment. This is similar to what Burger (1987) refers to as "self-presentation" concerns.

Ample empirical evidence suggests that internality moderates the effects of stress on well-being (Johnson & Sarason, 1978, 1979; Kobasa, 1979; Lester, 1982; Sadowski, Blackwell, & Willard, 1986). As noted

earlier, there appears to be a curvilinear relationship between LOC and stress (Rotter, 1966, 1975). Therefore, a moderate amount of internality would act as a buffer for stress, whereas an extreme amount of internality would not. An extremely internal person may view uncontrollable events as controllable, thus creating stress.

Statement of the Problem

The present study had three broad objectives: (1) identify item clusters reflecting different levels of controllability within the newly designed scale; (2) relate scores on these clusters to scores on Rotter's internal-external dimension (convergent validity), (3) evaluate the concurrent and discriminant validity of these clusters by assessing predicted relationships between the clusters and other psychological measures and demographic variables. The comparison variables included self-efficacy and perceived stress. Social desirability was also assessed to help establish the validity of the new instrument.

CHAPTER III

METHODOLOGY

This chapter includes a description of the subjects, an overview of the methodological techniques utilized, and a brief review of the psychometric properties of the instruments used in this study. The data analyzed in this research represent only a small portion of a large data set collected by a Self-Management Research Group at The University of Tennessee-Knoxville. Gender differences for the new personal control scale evaluated in this study have already been addressed in Adrian Sherman's dissertation (1991), which also used a portion of the data set. Sixteen instruments with some 400 questions were administered to over 700 individuals to constitute the larger data set.

Subjects

The sample consisted of approximately 760 individuals, with 230 males and 532 females. The majority of individuals were college students enrolled in either a large state university (n = 412), a small church-affiliated college (n = 53), or a community college (n = 255), all in the southeastern United

States. In addition, approximately 43 non-college adults, some of whom were employed in a local mental health center participated in the study. The numbers are approximate only in the sense that not all subjects completed all their questionnaires properly, thus the number of cases differs in certain analyses.

Student participants reflected an unusually broad demographic range due to the diversity of the institutional settings (see Table 3 in the Results Chapter). Participants came from freshmen through graduate level courses representing a variety of content areas including psychology, psychological measurement, child development, behavior management, and developmental study skills courses. All students were offered feedback relative to their scores on the various inventories with a brief written description regarding the meaning of their scores.

The age range of the subjects (18-65) was rather wide because of the inclusion of the community college pool and the non-student adults. A majority of the subjects were employed at least part time (n = 481), and significant number of subjects were married (n = 200). Although most of the subjects were white (n =

711), some blacks (n = 40) and a few subjects from other races (n = 10) participated in the study.

Student subjects were asked to volunteer for the study. Some students received extra credit for their participation, whereas others did not. All students had the option to participate in the study and were allowed to complete the surveys at home when that was deemed appropriate. The non-student subjects were mainly recruited from the professional staff at a local regional mental health center.

Development of Personal Control Instrument

The 72 items on the new instrument, entitled the Personal Influence Form (PIF), were selected from an original list of 104 items (grouped in 26 categories of 4 similar items - 2 positive and 2 negative items) that were rated by 10 members of a Self-Management Research Group at UTK relative to the psychological healthfulness of perceived influence over each category of events (see Appendix A). These raters used the same influence scale as was included in the current version of PIF: (1) no influence, (2) limited influence, (3) moderate influence, (4) major influence, (5) total

influence. The average influence rating of these 10 judges were then computed for the 26 categories of events (see Appendix B).

Ultimately, 18 categories (72 items) reflecting a broad spectrum of projected levels of influence for a healthy person were included in the scale. Items in each category were separated and randomly distributed throughout the total scale. The categories reflected in PIF ranged from acts of nature (average rating of 1 - no influence) to personal addictions (average rating of 4.2 - major influence). Twenty items that had been rated from 1 to 1.9 were designated as Subscale I (probability of very little personal influence); 20 items that had been rated from 2 to 2.9 were designated as Subscale II (probability of limited personal influence); and 32 items that had been rated 3 and above were included in Subscale III (probability of moderate to high personal influence). See Appendix B for the specific ratings of each category.

The format for subject response to each of the 72 items is provided in Appendix C. Note that the subjects were asked to respond to each item from their personal frame of reference. The term "influence" was

used in the instructions to the subjects rather than the term "control." Although "influence" and "control" may be largely interchangeable concepts, it was thought that the subjects would attach a less negative meaning to the term "influence."

To determine the quantitative clusters within the new instrument, a principal components factor analysis with varimax rotation was performed on the subject responses to the original 72 items. After each factor analysis run, if a test item did not load with a .50 or higher loading on any factor, it was dropped from the instrument. Quantitative clusters began to appear after the first factor analysis. Clusters not having at least three items that loaded at .50 or above on that factor, and only on that factor, were also dropped from the analysis after each factor run. Factor analysis runs continued as long as items and clusters did not meet the specified criteria for retention. Plus, the analysis continued until two consecutive runs yielded entirely consistent results. After the fourth factor analysis, thirty-four items loading on six factors remained.

Factor one had seventeen items, all of which

reflected the originally conceptualized category of items for which a perception of high personal influence was considered to be nonadaptive (probability of very little personal influence - Subscale I). The remaining five factors consisted of seventeen items that reflected the originally conceptualized category of events for which a perception of high personal influence was considered to be quite adaptive (probability of moderate to high personal influence - Subscale III). Thus, these five factors were grouped into one cluster. All the items in the original Subscale II were dropped due to minimal loadings during the factor analyses.

With this recombination of clusters, the new instrument (PIF) has two broad conceptual factors: one reflecting life events that cannot be substantially changed on a personal basis and the second reflecting events that can be greatly impacted by personal decisions and behaviors. Each conceptual factor has 17 items, making direct comparisons between the factor scores more feasible (see Appendix D).

Comparison Measures

Individuals' scores on the identified factors were compared with their scores on three health-related instruments to evaluate the convergent and concurrent validity of the factors within the PIF. In addition, correlations between the Marlowe-Crowne Social Desirability Scale and the PIF were examined to determine whether responses to the new PIF were related to a tendency to give socially acceptable answers.

Rotter I-E Scale

This particular measure was chosen because it is essential for assessing the convergent validity of the newly developing Personal Influence Form. Certainly, if the PIF truly measures perceived control over various categories of life events, its scores should be related to scores on the Rotter. Because the Rotter is scored in the direction of externality, scores on the PIF might be expected to be negatively related to the Rotter scores. However, if the PIF actually differentiates highly controllable from largely uncontrollable events, then one might predict that only perceived influence over highly controllable events

should be inversely related to the Rotter measure of externality.

The I-E Scale was originally developed by Rotter as a generalized measure for internal versus external control of reinforcement (see Appendix E). Normative data were originally collected for Rotter's I-E Scale from a group of Ohio State University undergraduates in an introductory psychology course in the early 1960s (Rotter, 1966). Newer norms from the same population were established in a 1982 study by Cellini and Kantorowski. The test-retest reliability ranged from .49 to .83 for one and two month periods (Rotter, 1966). On the second administration, Rotter reported that scores typically dropped one point. Internal consistency ranged from .69 to .79 (Rotter, 1966). Rotter indicated that these estimates were not particularly high but points out that the items were designed to measure attitudes in diverse situations.

Validity of the Rotter instrument has been established via comparisons between the Rotter and a variety of instruments. For example, in support of its convergent validity, Lindbloom and Fau (1982) report a correlation of .44 between the Rotter and Nowicki-

Strickland LOC Scale (adult version) and a correlation range of .49 to .56 with the Chance subscale of Levenson's I-E Scale. Discriminant validity is suggested by low correlations between Rotter's scale and IQ measures (ranging from .03 to -.22), as one would expect (Rotter, 1966). A number of studies point to concurrent validity for the Rotter. Internal LOC is generally related to success in self-management and demonstrates a strong relationship to other mental health variables such as self-efficacy (Sherer et al., 1982), depression (Haley & Strickland, 1977, 1986), and optimism (Scheier & Carver, 1985).

The Self-Efficacy Scale

A variable somewhat akin to locus of control is self-efficacy, the belief that one can display the behaviors necessary to attain a desired outcome. In 1977, Bandura indicated that self-efficacy was the one most powerful determinant of behavioral change, because high self-efficacy often leads to perseverance and diversity of efforts to change one's behavior. The measure of self-efficacy included in the current study was the Self-Efficacy Scale developed by Sherer and his colleagues (1982) (see Appendix F). It measures

general self-efficacy and social self-efficacy, which is expected self-efficacy in social situations. Using Cronbach's Alpha, Sherer et al. (1982) found high internal consistency for both factors. The investigators reported internal consistency coefficients of .86 for general self-efficacy and .71 for social self-efficacy.

The concurrent validity of the Self-Efficacy Scale was assessed by correlating the self-efficacy factors with six other personality characteristics. Both general self-efficacy and social self-efficacy were significantly related to the following variables: locus of control, personal control, social desirability, interpersonal competency and self-esteem. Only ego strength was unrelated to social self-efficacy. These psychometric properties for this scale support its inclusion in the test battery.

The Perceived Stress Scale

Although low scores on Self-Efficacy Scale may be considered evidence of nonadaptiveness, the Perceived Stress Scale (PSS) was included to reflect nonadaptiveness more directly (see Appendix G). Stress can be viewed as a by-product of unrealistic

assumptions about personal control in one's life. As mentioned in the previous chapter, extreme internality may actually heighten stress (Gilbert & Mangelsdorff, 1979; Krause, 1986; Krause and Stryker, 1984; Wortman, 1976). Thus, the relationship between stress and perceived control over controllable vs. uncontrollable events needs additional clarification.

The Perceived Stress Scale developed by Cohen, Kamarck, and Mermelstein in 1983, yields a total score that reflects the respondents belief that his/her life is uncontrollable, unpredictable, or overloaded. It has 14 items scored on a 5 point Likert style scale (0 = never to 4 = very often). Half of the items are worded in a positive direction and the other half in a negative direction. The positive item scores are reversed and added to the negative item scores to obtain a total PSS score.

Three different samples were utilized to ascertain internal consistency (one smoking cessation group and two groups of college students). The Alpha correlations were high, ranging from .84 to .86. Two different samples with different time intervals were studied to determine test-retest reliability

correlations. A correlation of .85 was obtained for a sample of college students after a two-day interval. A lower correlation of .55 was obtained for a smoking cessation group after a significantly longer period of six weeks.

The PSS has been linked to some important comparison variables. For example, it is a better predictor of symptomatology than is a measure of life events. Cohen, Kamarch, and Mermelstein (1983) found this to be the case for both physical and depressive symptoms. For two student samples, the PSS also proved to be a relatively strong predictor of social anxiety ($r = .37$ and $.48$, $p < .001$). Thus, the psychometric properties of this instrument warrant its inclusion of this study. Presumably, perceived influence over high control events would be inversely related to scores on this stress scale, and perceived influence over low control events positively related.

Social Desirability

The Marlowe-Crowne Social Desirability Scale (SDS) was included in the test battery to assess whether responses to the new PIF are related to a tendency to give socially desirable answers. This instrument was

developed by Crowne and Marlowe (1960) to measure the need of individuals to obtain approval by responding in a culturally acceptable manner. The purpose of this inventory is to assess response distortion related to social desirability (see Appendix H).

A test-retest reliability correlation of .89 was obtained for the Marlowe-Crowne after a one month interval. An internal consistency of .88 was obtained using the Kuder-Richardson formula 20. When comparing individuals between 13 and 25 years of age, McFarland and Sparks (1985) reported that the internal consistency for the Marlowe-Crowne SDS was greater for individuals who were older and had more education.

Validity of the Marlowe-Crowne SDS was demonstrated in three ways. Convergent validity was demonstrated by a correlation of .35 ($p < .01$) between the Marlowe-Crowne SDS and the Edwards SDS. Content validity was established by examining a number of inventories of current personality inventories to select items for the Marlowe-Crowne. An item had to meet the criterion of a behavior that is culturally sanctioned and approved, but which is not likely to occur. Ten judges who were faculty members and

graduate students from the Department of Psychology of Ohio State University rated the 47 items on the preliminary scale in terms of the criterion stated above. The interjudge agreement was 100% on 36 items and 90% on 11 items. The authors also demonstrated construct validity by rating the degree of maladjustment implied by socially undesirable responses to the items. They used a 5-point scale ranging from extremely well-adjusted (1) to extremely maladjusted (5). The mean for all the items in the M-C SDS was 2.8, slightly below the midpoint of the scale (this rating was neutral and did not imply either good or bad adjustment).

Procedures

Upon return of the surveys, each was screened for errors by members of the Self-Management Research Group. Score sheets with errors were discarded from the total sample. As previously mentioned, the PIF was put through a series of principal components factor analyses with varimax rotation. The factors that remained were correlated with the other factors within the scale, the total scale score, and the comparison measures.

CHAPTER IV

RESULTS

Factor Analysis

This section describes the PIF factors, delineates the quantitative relationships among the factors, and evaluates the validity of those factors.

Factor Descriptions

All the items that make up the high control factor were originally rated by the judges as life events quite amenable to personal influence. The average rating from the judges for these items was 3.72, and the average response from the subjects to the same items was 3.55. These ratings reflect a moderate to major level of influence over these life events.

The high control factor is comprised of five quantitative clusters that relate to the following types of life events: longevity, drug abuse, job status, close personal relationships, and general interpersonal events. Researchers will obtain a more representative measure of perceived influence over high control events by summing across these five quantitative clusters than by examining them separately

because each of these quantitative clusters contains few items (3 or 4).

The 17 items comprising the low control factor did not separate out into smaller quantitative clusters, as did the composite high control factor. All the items retained in the low control factor had been rated by the judges as largely beyond individual control. The average rating from the judges for these items was 1.28, and the average response from the subjects was 1.66. Therefore, a high degree of perceived influence over these events would appear to be unrealistic and nonadaptive.

Relationships Among Factors

The relationship between perceived influence over highly controllable events and perceived influence over essentially uncontrollable events was a critical issue in the study. Does perception of personal influence tend to generalize across these two categories of events? Table 1 indicates that these two factors appear to be highly independent, with a near-zero correlation between them. Thus, one's responses to either factor is not predictable by knowing that person's responses to the other factor.

Table 1. Relationships Among PIF Factors

	I	II	II_A	II_B	II_C	II_D	II_E
I. Low Control							
II. High Control	.03						
A. Longevity	.27*	.62*					
B. Drug Abuse	-.30*	.62*	.09				
C. Job Status	.19*	.72*	.35*	.33*			
D. Close Relationships	-.08	.71*	.26*	.34*	.38*		
E. Interpersonal Events	.02	.70*	.31*	.27*	.39*	.45*	
III. Corrected High Control Total[a]			.33*	.33*	.53*	.51*	.50*

Note. Because a correlation as low as .08 was significant at the .05 level, only those correlations significant at the .0001 level are marked with an asterisk. * < .0001

[a]The corrected high control total was computed by subtracting the cluster under consideration from the total.

Another important issue was the extent to which the five high control clusters were related to the composite high control total. Correlations were computed between each of these clusters and the corrected high control total (i.e., high control total minus the factor under consideration). Table 1 indicates a substantial relationship between each of these quantitative clusters and the corrected high control total. However, longevity and drug abuse were not as strongly related to the corrected high control total as were the other clusters. The majority of the high control clusters were consistently correlated with one another, with only the relationship between longevity and drug abuse being quite low. Thus, there appears to be enough consistency among these quantitative clusters to treat them as a composite high control factor.

Correlational analyses were also used to examine relationships between scores for the high control clusters and low control total scores (see Table 1). The results present a mixed picture of those relationships. For example, the high control clusters pertaining to longevity and job status were positively

correlated with the low control total, whereas the high control cluster pertaining to substance abuse was negatively correlated with the low control total. The correlation between the low control total and close personal relationships was not significant. The contrasting directionality of these relationships probably accounts for the near-zero correlation between the high control and low control totals.

Validity of Factors

Because the Rotter I-E Scale was the only other direct measure of locus of control included in the test battery, it was the most important comparison variable in the study. The high control total yielded a -.26 r ($p < .0001$) with the Rotter, and most of the high control clusters were also negatively correlated with the Rotter: drug abuse ($r = -.24 < .0001$); job status ($r = -.17$, $p < .0001$); close relationships ($r = -.18$, $p < .0001$); and general interpersonal events ($r = -.24$, $p < .0001$). These low to moderate correlations with the Rotter were generally in the range anticipated. The low control factor was expected to be less related to the Rotter than was the high control factor.

Indeed, the correlation was near zero (r = .01) between the PIF low control factor and the Rotter.

The concurrent validity of the PIF was first examined by correlating its scores with a dimension assumed to be an adaptive criterion measure of health (self-efficacy). The relationships between the PIF factors and this adaptive criterion measure were generally in the expected directions (i.e., the high control factor and its quantitative clusters were positively related to general and social self-efficacy, whereas the low control factor tended to be negatively related to self-efficacy). The strength of the relationship between the PIF and the I-E Scale was generally stronger than the relationship between the PIF and self-efficacy (see Table 2).

Not all of these quantitative clusters were equally related to self-efficacy. Specifically, the longevity cluster was less related to self-efficacy than were other high control clusters. Because the magnitude of the correlations between the high control clusters and self-efficacy tended to be low to moderate, the consistency rather than the magnitude of

Table 2. Correlations Between PIF Factors and Self-Efficacy

	Social Self-Efficacy	General Self-Efficacy
PIF Factors		
I. Low Control	.01(NS)	-.09(.01)
II. High Control	.15(.0001)	.18(.0001)
A. Longevity	.05(NS)	.04(NS)
B. Drug Abuse	.10(.01)	.20(.0001)
C. Job Status	.14(.001)	.14(.001)
D. Close Relationships	.09(.01)	.09(.01)
E. Interpersonal Events	.15(.0001)	.13(.001)

these relationships provides support for the concurrent validity of the PIF factors.

The concurrent validity of the PIF was also evaluated by correlating its factors with a nonadaptive criterion measure (perceived stress). The low control factor was unrelated to the stress measure ($r = .02$). The high control factor and its quantitative clusters were all somewhat negatively related to stress. The directionality of these relationships indicates that perception of control over highly controllable events is negatively related to stress. The specific correlations between stress and the high control variables were the following: high control total = -- .17 ($p < .0001$), longevity = -.07 ($p < .05$), drug abuse = -.11 ($p < .002$), job status = -.13 ($p < .0005$), close relationships = -.10 ($p < .003$) and interpersonal events = -.17 ($p < .0001$). Although all of these negative correlations were statistically significant, their relatively small magnitude obviously leaves much variance unexplained.

The item means for demographic subgroups were examined to address the discriminant validity of the PIF factors. No systematic associations between the

PIF factors and the demographic dimensions were anticipated. Table 3 generally supports the expectations. The mean responses to the low control items tended to be between 1.5 and 2.0 for most of the demographic subgroups, whereas the mean responses to the high control items were around 3.5. Black subjects and participants not having a high school education tended to show less distinction in their responses to the low control and high control items than did most other subgroups. However, this apparent deviation from the overall pattern could easily have been obtained by chance, given the number of subgroups in the study and the relatively small n for Blacks and participants without a high school education.

Item Analyses

The mean responses to the items by the total sample were quite consistent with the initial rating of items by the panel of judges (see Table 4). This consistency lends support to the content validity of the items included in the PIF. The mean responses of the subject pool also show a clear distinction between the low control and high control items. However, these item means were more consistent for the low control

Table 3. PIF Item Means by Factors for Demographic Subgroups

	Low Control	High Control		Low Control	High Control
Gender			School		
Males (n=230)	1.82	3.50	Large State		
Females (n=532)	1.59	3.58	University (n=412)	1.55	3.58
			Community		
Age			College (n=255)	1.81	3.50
18-24 (n=494)	1.69	3.54	Other (n=96)	1.70	3.57
25-34 (n=164)	1.64	3.56	Student Status		
35-49 (n=91)	1.51	3.64	Full-time (n=605)	1.66	3.57
50-64 (n=11)	1.78	3.52	Part-time (n=115)	1.64	3.52
65 or over (n=3)	1.71	3.58	Non-student (n=43)	1.77	3.55
Educational Level Attained			Race		
Less than High			Black (n=40)	2.08	3.26
School (n=15)	2.21	3.16	White (n=711)	1.63	3.57
High School or			Other (n=10)	1.93	3.36
GED (n=572)	1.67	3.5			

	Low Control	High Control		Low Control	High Control
Technical			Marital Status		
Vocational			Married (living w/spouse)		
School (n=47)	1.72	3.47	(n=200)	1.59	3.55
College			Separated (n=25)	1.96	3.43
Degree (n=98)	1.54	3.63	Divorced (n=48)	1.59	3.59
Graduate			Never Married(n=487)	1.68	3.57
Degree (n=30)	1.53	3.63			

than the high control items. The means for the low control items ranged from 1.31 to 1.98, whereas the means for the high control items ranged from 2.92 to 4.28. The low control items were also more strongly correlated with the corrected low control total than the high control items were with the corrected high control total. Table 4 further indicates that some of the high control clusters were perceived as more controllable than others. For example, the drug abuse items consistently received the highest ratings of all the high control items, and the longevity items the lowest ratings.

Internal Consistency

Internal consistency reliability for the PIF and its factors was established through computation of Cronbach's Alpha. Although no total score was actually computed for the PIF, the internal consistency for the total scale was .90. The internal consistency coefficient was .96 for the low control factor and .82 for the composite high control factor. Alphas for the high control clusters were .75 for longevity, .72 for substance abuse, .69 for job status, .61 for close relationships, and .69 for interpersonal events.

Table 4. Item Analyses for PIF Factors

	Response Mean	Judges' Mean	Corrected r with Factor Total[a]
Factors			
I. Low Control			
Item 1	1.45	1.00	.66
Item 3	1.60	1.20	.66
Item 4	1.98	1.50	.72
Item 6	1.91	1.50	.75
Item 9	1.89	1.50	.79
Item 11	1.88	1.25	.73
Item 14	1.31	1.00	.77
Item 15	1.86	1.50	.75
Item 17	1.39	1.20	.78
Item 20	1.41	1.00	.79
Item 21	1.92	1.90	.77
Item 23	1.40	1.00	.81
Item 25	1.67	1.25	.79
Item 26	1.87	1.25	.79
Item 28	1.47	1.20	.72
Item 31	1.86	1.25	.83
Item 32	1.34	1.20	.68
II. High Control			
A. Longevity			
Item 5	2.97	3.50	.25
Item 10	2.98	3.50	.38

	Response Mean	Judges' Mean	Corrected r with Factor Total[a]
A. Longevity (cont.)			
Item 19	2.96	3.50	.47
Item 30	3.23	3.50	.46
B. Drug Abuse			
Item 2	4.39	4.20	.36
Item 18	4.41	4.20	.40
Item 33	4.00	4.20	.30
Item 34	4.28	4.20	.44
C. Job Status			
Item 24	3.62	3.80	.45
Item 27	3.24	3.80	.46
Item 20	3.31	3.80	.46
D. Close Relationships			
Item 7	3.69	3.70	.40
Item 12	3.38	3.40	.43
Item 22	3.70	3.70	.49
E. Interpersonal Events			
Item 8	3.47	3.40	.43
Item 13	3.52	3.40	.39
Item 16	3.54	3.40	.48

[a]Corrected r's were computed between scores for each item and its factor total (Low Control or High Control) minus that item.

Social Desirability

The correlations between the Marlowe-Crowne and the PIF factors showed virtually no relationship between these dimensions. The correlation of the Marlowe-Crowne with the low control factor was .06, and the correlation with the composite high control factor was .00. Most of the high control clusters were also unrelated to the Marlowe-Crowne: longevity = .08 ($p < .05$), drug abuse = .06 (NS), job status = .01 (NS), close relationships = -.03 (NS), and interpersonal events = .05 (NS). These data suggest that scores on the PIF factors are not likely to be affected by subjects' attempts to present themselves in a positive light.

CHAPTER V

DISCUSSION

The differentiation between controllable and uncontrollable life events in this study has been made at an individual rather than aggregate level. There are certain events over which a typical individual could exercise little control (e.g., acts of terrorism in Europe, war between Latin American nations, stock market crashes in one's home country, threat of global famine). However, the PIF is concerned only with one's individual influence over life events. It may be healthy to believe that one can wield a small influence over international events, economic conditions in one's home country, and general human conditions, but unhealthy to believe that one can exercise great influence over such events.

The PIF appears to assess adaptiveness of perceived control from a realistic versus an unrealistic perspective. For example, it would seem realistic to believe that one has significant control over his or her health, but it would seem unrealistic to contend that one has significant control over the stock market. This orientation employs one's "common

sense" in deciding what one can control. In fact, a realistic perception of controllability of events may closely correspond to what is commonly labelled "good common sense."

Correlations between the composite factors of the PIF revealed virtually no relationships between the perception of control over high control events and the perception of control over low control events. Thus, it appears that many individuals are able to separate perceived control over some types of events from perceived control over other types of events. Notwithstanding the near-zero correlation between the composite high and low control factors, some of the high control clusters (i.e., longevity, job status, and interpersonal events) were positively correlated with the low control total, and drug abuse was negatively correlated with the low control total. This disparity in the directionality of correlations probably explains why the composite factor totals were unrelated. However, this same disparity also clouds the presumed independence of the two composite factors. Lumping the five quantitative clusters together is obviously

problematic in terms of their relationship to the low control factor.

The grouping of several quantitative clusters into one conceptual category that reflects high control is problematic from another perspective. The subjects perceived themselves as having less influence over longevity than over the other high control clusters. Paradoxically, the subjects viewed themselves as having a high degree of influence over substance abuse, a condition that may significantly affect longevity. Perhaps many subjects did not make the association between life style characteristics (e.g., substance abuse, health habits) and longevity. It is very possible that the relative youth of the sample (majority under 35) may have influenced this finding. Young adults may be less attuned to the long-term consequences of health habits than are older individuals. Replication with older adults is needed to determine if perceived influence over longevity is greater in other stages of life and if older adults are more sensitive to the relationship between health habits and longevity.

Although most of the items originally judged as largely uncontrollable clustered quantitatively, some conceptual distinctions among these items may be warranted. This wide-ranging category of low control events includes acts of nature, international events, economic conditions within one's country, and general human conditions. Viewing oneself as having some control over economic conditions, famine, and homelessness is significantly different than viewing oneself as having some control over acts of nature. Politically and socially active persons may rate their influence over economic conditions, famine, and homelessness as considerably greater than their influence over weather conditions. However, as the evidence concerning the impact of human actions on the natural ecosystem continues to grow, this conceptual distinction between the controllability of these various events may become more obscure.

The PIF was not intended to be an exhaustive measure of all the spheres of life where perceived control might be adaptive or nonadaptive. The original pool of possible items included several categories of life events that were not included in the 72-item

instrument administered to this sample. Furthermore, the series of factor analyses performed on the subjects' responses reduced the categories even more. The basic purpose of the instrument was to evaluate the importance of making a distinction between adaptive and nonadaptive perceptions of personal control. Obviously, much work remains to be done in delineating the domains that are differentially responsive to personal influence.

The two major levels of controllability that emerged through the factor analyses in the PIF leave out a broad range of life events over which one may exercise an intermediate level of control. The original rating of items for possible inclusion in the new scale included several categories of events that were judged to be somewhat controllable at an individual level. Apparently, the subjects' perceptions of influence over the more moderately controllable events were so mixed that no clear factor patterns emerged for these items in the factor analysis. Consequently, only those items that the judges had rated either as quite controllable or largely uncontrollable evidenced clear quantitative

clusters. Thus, the distribution of events sampled by the PIF tends to be bipolar, with an equal number of largely controllable and uncontrollable events reflected in the scale. However, this kind of dichotomous distribution may overly simplify judgments about the adaptiveness of perceived personal control.

The degree of controllability within each category of events (e.g., interpersonal relationships, longevity) included in the PIF was relatively homogenous. For example, the mean responses for items in the longevity cluster ranged from 2.96 to 3.23. The largest range for the item means (4.00 to 4.41) was obtained for the drug abuse cluster. Items could have been developed for each category that ranged from highly controllable to uncontrollable. However, no distinction was made in controllability within each of the original categories of events included in the 72 item scale. It seems reasonable that a diversity of events related to a theme such as longevity or interpersonal relationships would reflect different levels of personal controllability.

Closer attention should be given to the differentiation between controllable and uncontrollable

events within existing and yet-to-be developed locus of control measures. For example, the most widely used measure of locus of control, the Rotter I-E Scale, has several internal alternatives that reflect questionable personal control. These include the following statements: "One of the major reasons why we have wars is because people don't take enough interest in politics"; "The average citizen can have an influence in government decisions"; "By taking an active part in political and social affairs the people can control world events"; "With enough effort we can wipe out political corruption"; and "In the long run the people are responsible for bad government on a national as well as on a local level." Individuals may collectively exercise considerable control over such events but one individual (unless s/he is in a position of great power) may have very limited control. Certainly, the level of one's personal control over the government is vastly different than one's personal control over the grades one receives in school. The psychological implications of an internal locus of control will remain somewhat obscure until these

distinctions are made with greater precision in locus of control measures.

The degree to which people take control over negative and positive events in their lives may be somewhat different. A common interpretation is that individuals are more likely to take personal credit for positive outcomes and blame others or chance for bad outcomes. Even though the PIF was not intended to make this distinction, it does provide a balance between positive and negative events. The PIF has 17 items that reflect positive events or circumstances (e.g., beautiful weather, increase in income) and 17 that reflect negative events (e.g., extended drought, alcohol dependency).

The PIF appears virtually free of social desirability response tendencies. The degree of personal influence reported over highly controllable or essentially uncontrollable events apparently was not affected by attempts to give socially acceptable answers. This absence of a social desirability effect for PIF responses contrasts with the pattern sometimes reported for the Rotter I-E Scale. Several researchers (e.g., Cone, 1971; Sommers-Flanagan & Sommers-Flanagan,

1987) have reported significant relationships between the Rotter and measures of social desirability. Even in the current study, a -.25 correlation ($p < .0001$) was obtained between the Rotter and the Marlowe Crowne. In all these cases, internality on the Rotter was associated with a tendency to give socially acceptable answers. The Belief in Personal Influence Scale, which includes a measure of exaggerated personal control, has also been significantly correlated with social desirability (Berrenberg, 1987).

In addition to its psychometric properties, the PIF appears theoretically linked to both deCharms' personal causation construct and the concept of internal-external control of reinforcement. The LOC construct relates to perceived events external to oneself, whereas the personal causation construct relates to perceived control of one's personal actions. The PIF includes several events that are clearly external to oneself (e.g., my area has a week of beautiful weather; human violence decreases world wide; the stock market crashes in my country) and several that would be considered intrapersonal (e.g., I live to an advanced age; I have no dependency on drugs) and a

few items that are a combination of these (e.g., I have lots of job security; I become estranged from a longstanding friend). Of the thirty-four items in the final version of the PIF, twenty-two would probably be considered external events, eight intrapersonal, and four a combination of external and intrapersonal events. Thus, as opposed to being a pure measure of locus of control, the PIF assesses one's perceived personal influence over a range of both external and intrapersonal events. In the latter case, the PIF measures a dimension that is conceptually akin to deCharms' construct of origin. However, unlike deCharms' conceptualization, the PIF reflects the extent to which one views oneself as an origin for external events as well as for personal actions and characteristics.

The distinction between external vs. intrapersonal events may also be made in terms of their potential reinforcement values. It would seem that intra-personal events could be very reinforcing because of the immediacy and continuity of those events. In contrast, reinforcement from external events may not be received immediately and the saliency of these events

may vary markedly for different people. Thus, perceived influence over intrapersonal events may be more predictive of one's actual behaviors than perceived influence over more remote external events.

A number of areas remain to be investigated in evaluating the conceptual and psychometric potential of the PIF. For example, it is possible that the low control factor would become a more powerful predictor of important criterion variables with more maladjusted or pathological subjects. Because the current sample was relatively homogenous (most were young adults in college), the correlations between the PIF and the comparison variables may have been much smaller than what would be obtained with a more diverse sample including clearly pathological subjects.

Sherman's dissertation (1991) suggests that gender may also be a relevant sampling variable in evaluating the structure and predictive potential of the PIF. For example, he found that males are more likely to perceive themselves as being in control of uncontrollable events than are females. Thus, the PIF may have greater utility on a gender specific basis than on a generic basis.

In addition to these sampling issues, the test-retest reliability of the PIF remains to be established, and the factor structure reported for the PIF needs to be cross-validated with other types of populations. The relationship between the PIF factors and a wide range of nonadaptive dimensions (e.g., anxiety, depression, hostility) also needs to be assessed. Inasmuch as all of the comparison instruments included in this study were of a self-report nature, further research needs to include observational measures of adaptive and nonadaptive behavior. As a predictor of overt behavior in the spheres represented in the PIF (e.g., drug abuse, interpersonal relationships, job status), scores on the PIF would also need to be considered in conjunction with the perceived importance of those spheres to the individuals assessed. People differ in what they value or find reinforcing. In fact, combining the PIF scores with measures of personal importance of these spheres might substantially increase the predictive potential of the PIF.

In summary, the PIF has several conceptual and psychometric features that make it worthy of further

investigation. It is possibly the only personal control measure that attempts to make a conceptual distinction between events that can and cannot be substantially influenced on a personal basis. Although the correlations between the PIF factors and the criterion measures are not large, they generally point to a distinction between adaptive and nonadaptive internal locus of control. The low control and high control factors consistently correlated in different directions with the comparison variables. The composite high control factor appears to be the best predictor of important criterion variables. In addition to its concurrent and convergent validity, the PIF has a high degree of internal consistency within and across quantitative clusters and is virtually independent of social desirability response tendencies.

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APPENDICES

Appendix A

Instructions for Judges Ratings

For each of the following broad categories of events, indicate the extent to which you believe a psychological healthy person could typically exercise some influence over that type of event. Four examples have been provided for each category. If you think that some of the examples within a category could be influenced more by personal actions than could other examples, indicate the level of influence for each example and then estimate an average level of personal influence across the examples in that category.

Indicate a psychologically healthy person's potential influence over each category of events according to the following scale: (1) no influence, (2) limited influence, (3) moderate influence, (4) major influence, (5) total influence. For example, if you believe that a particular category of events is totally beyond the influence of a healthy person, you would mark (1) "no influence." On the other hand, if you believe that a category of events could be totally controlled by a healthy person's influence, mark (5) "total influence." If you believe that a healthy

person could exercise some influence over a particular event, but not total influence, you would make a choice between (2) "limited influence" and (4) "major influence." Although a category of events may not perfectly fit one of the five levels of influence, choose the level of influence that comes closest to matching that category.

Appendix B

Judges Ratings' for

Level of Influence

Mean Rating	Percentage of Agreement	Range of Ratings	Category of Events	Included In Original 72-Item Scale
1	100		Acts of Nature	x
1.2	80	(1-2)	International Events	x
1.2	80	(1-2)	Genetically-Based Personal Conditions	
1.25	70	(1-2)	General Economic Conditions in One's Home Country	x
1.5	50	(1-2)	Diplomatic Relations Between One's Home Country and Other Nations	
1.5	50	(1-2)	General Societal Conditions in One's Home Country	
1.5	50	(1-2)	General Societal Health	

Mean Rating	Percentage of Agreement	Range of Ratings	Category of Events	Included In Original 72-Item Scale
1.5	50	(1-2)	General Human Conditions	x
1.5	50	(1-2)	National Political Events	
1.5	60-1 rating	(1-3)	Significant Experiences with Strangers	
1.9	40-1 rating	(1-3)	General Societal Conditions in One's Region	x
2.1	70-2 rating	(1-3)	Physical Status of Adult Family Members	x
2.3	60-2 rating	(1-4)	Psychological Status of Adult Family Members	x
2.5	50	(2-3)	General Conditions Where One Works	x
2.8	40-2,3 rating	(2-4)	Health Status of One's Children	x
2.9	40-3 rating	(1-4)	Emotionally Charged	x
Mean Rating	Percentage of Agreement	Range of Ratings	Category of Events	Included In Original 72-Item Scale

			Events in One's Life	
3.2	50-3 rating	(1-4)	Longstanding Personal Health Conditions	x
3.4	60-4 rating	(1-4)	One's Legal Status	
3.4	40-3,4 rating	(1-4)	One's Interpersonal Responses from Others	x
3.5	60-3 rating	(3-5)	Longevity	x
3.7	80-4 rating	(2-4)	Status of One's Interpersonal Relationships	x
3.8	80-4 rating	(3-4)	Personal Work-related Issues	x
3.9	70-4 rating	(3-5)	Time-limited Personal Health Status	x
4	80-4 rating	(3-5)	One's Leadership Positions	
4	100		One's Financial Status	x
4.2	60-4 rating	(3-5)	One's Life Style Status Relative to Addictions	x

Appendix C

Personal Influence Scale

Instructions:

This questionnaire requires you to estimate how much influence you might have over potential events or circumstances in your life. Although you will not have experienced some of these events/circumstances, estimate the level of influence you might have over their occurrence. For each event or set of circumstances described, ask yourself whether your own actions, thoughts, or feelings could prevent or contribute to that event or set of circumstances.

Indicate your potential influence over each event or set of circumstances by using the following code:

A) no influence
B) limited influence
C) moderate influence
D) major influence
E) total influence

If you believe that a particular event or set of circumstances is totally beyond your influence, you would mark (A) "no influence" beside that item number on the answer sheet. On the other hand, if you believe that an event could be totally influenced by your own actions, mark (E) "total influence." If you believe that you could exercise some influence over a particular event, but not total influence, you would mark a response between (B) "limited influence" and (D) "major influence." Since some items describe rather broad categories of events or circumstances, indicate the level of influence you would typically have over events or circumstances in those categories.

Be sure you have marked your ID number on the front and back of the answer sheet 1 before beginning the questionnaire. Please make no marks on this questionnaire.

RESPONSE CODE: (A) no influence, (B) limited influence, (C) moderate influence, (D) major influence, (E) total influence

1. My area has a week of beautiful weather.
2. Russia removes its military presence from a neighboring nation.
3. I receive a nasty phone call from an old acquaintance.
4. I become an alcoholic.
5. I never have an ache or a pain.
6. My child is born with a birth defect.
7. An adult member of my family enjoys robust health.
8. Human violence decreased world-wide.
9. I die in mid-life.
10. Top management is very ineffective where I work.
11. Disease decreases world-wide.
12. I become estranged from a longstanding friend.
13. I develop heart disease.
14. I seldom receive help from others when I really need it.
15. I have considerable fewer allergy problems than I once did.
16. I earn more than enough money to meet my personal goals.
17. I live longer than both of my parents.

PLEASE RE-CHECK THE ANSWER SHEET TO BE SURE YOU HAVE MISSED NO ITEMS ON THIS PAGE.

RESPONSE CODE: (A) no influence, (B) limited influence, (C) moderate influence, (D) major influence, (E) total influence

18. An adult member of my family survives a life threatening disease or accident.

19. I am fired from my job.

20. Others are often antagonistic toward me.

21. I have had allergies as long as I can remember.

22. I never catch a cold.

23. Others come to my assistance when I really need help.

24. The threat of a world-wide famine increases.

25. I become deeply in debt.

26. My work is challenging and enjoyable.

27. My child is born perfectly normal.

28. The unemployment rate is very low in my country.

29. A heavy windstorm occurs in my area.

30. The number of homeless individuals increases world-wide.

31. An adult member of my family becomes deeply depressed.

32. My day goes extremely well.

33. War breaks out between Latin American nations.

34. A much needed rain occurs in my area.

35. Criminal activity increases in my area.

PLEASE RE-CHECK THE ANSWER SHEET TO BE SURE YOU HAVE MISSED NO ITEMS ON THIS PAGE.

RESPONSE CODE: (A) no influence, (B) limited influence, (C) moderate influence, (D) major influence, (E) total influence

36. My area has an extended drought.

37. My energy level increases.

38. An adult member of my family becomes seriously ill.

39. My child enjoys sustained good health.

40. The stock market crashes in my country.

41. An adult member of my family typically behaves very rationally.

42. Others usually treat me very cordially.

43. The overall pay-scale significantly improves where I work.

44. I have no dependency on drugs.

45. My life is shorter than my parents' lives.

46. An adult member of my family dies.

47. I become reconciled with a previously estranged friend.

48. Employees are treated with great respect where I work.

49. An adult member of my family often exhibits bizarre behavior.

50. My day goes very badly.

51. My income increases substantially.

PLEASE RE-CHECK THE ANSWER SHEET TO BE SURE YOU HAVE MISSED NO ITEMS ON THIS PAGE.

RESPONSE CODE: (A) no influence, (B) limited influence, (C) moderate influence, (D) major influence, (E) total influence

52. My country has a period of economic prosperity.

53. I have too many responsibilities at work.

54. The rate of youth suicides increases in my area.

55. A peace settlement is reached in the Middle East.

56. I start catching whatever virus is going around.

57. I have lots of job security.

58. I live to an advanced age.

59. A very restrictive policy is instituted where I work.

60. An adult member of my family recovers from depression.

61. Inflation reaches an all time high in my country.

62. The rate of alcoholism decreases in my area.

63. The literacy rate increases in my area.

64. Several acts of terrorism occur in Europe.

65. I have no desire for alcohol.

66. I have chronic arthritis.

67. I go through a traumatic divorce.

68. I become hooked on certain drugs.

70. My child becomes seriously ill.

PLEASE RE-CHECK THE ANSWER SHEET TO BE SURE YOU HAVE MISSED NO ITEMS ON THIS PAGE.

RESPONSE CODE: (A) no influence, (B) limited influence, (C) moderate influence, (D) major influence, (E) total influence

71. I marry a wonderful person.

72. I receive a very nice gift from a special friend.

PLEASE RE-CHECK THE ANSWER SHEET TO BE SURE YOU HAVE MISSED NO ITEMS ON THIS PAGE.

Appendix D

Items Comprising PIF Factors

I. Low Control

Item 1. My area has a week of beautiful weather.

Item 3. Russia removes its military presence from a neighboring nation.

Item 4. Human violence decreases world-wide.

Item 6. Disease decreases world-wide.

Item 9. The threat of a world-wide famine increases.

Item 11. The unemployment rate is very low in my country.

Item 14. A heavy windstorm occurs in my area.

Item 5. The number of homeless individuals increases world-wide.

Item 17. War breaks out between Latin American nations.

Item 20. A much needed rain occurs in my area.

Item 21. Criminal activity increases in my area.

Item 23. My area has an extended drought.

Item 25. The stock market crashes in my country.

Item 26. My country has a period of economic prosperity.

Item 28. A peace settlement is reached in the Middle East.

Item 31. Inflation reaches an all time high in my country.

Item 32. Several acts of terrorism occur in Europe.

II. High Control

A. Longevity

Item 5. I die in mid-life.

Item 10. I live longer than both of my parents.

Item 19. My life is shorter than my parents' lives.

Item 30. I live to an advanced age.

B. Drug Abuse

Item 2. I become an alcoholic.

Item 18. I have no dependency on drugs.

Item 33. I have no desire for alcohol.

Item 34. I become hooked on certain drugs.

C. Job Status

Item 24. My income increases substantially.

Item 27. I have too many responsibilities at work.

Item 29. I have lots of job security.

D. Close Relationships

Item 7. I become estranged from a longstanding friend.

Item 12. Others are often antagonistic toward me.

Item 22. I become reconciled with a previously estranged friend.

E. Interpersonal Events

Item 8. I seldom receive help from others when I really need it.

Item 13. Others come to my assistance when I really need help.

Item 16. Others usually treat me very cordially.

Appendix E

ROTTER ATTITUDE INVENTORY

This inventory consists of a number of pairs of statements. Please choose the statement in the pair which is most characteristic of what you believe and darken in the space for that letter on the attached answer sheet. Example:

a. There are certain people who are just no good.
b. There is some good in everybody.

You may believe both A and B are true, or neither A nor B is true. In either case, you must choose the statement with which you agree most. There are no right or wrong answers, so your choices should reflect your beliefs.

73. 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.

74. 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.

75. 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 people try to prevent them.

76. 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.

PLEASE RE-CHECK THE ANSWER SHEET TO BE SURE YOU HAVE MISSED NO ITEMS ON THIS PAGE.

77. 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.

78. 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.

79. 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.

80. 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.

81. 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.

82. 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.

83. 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.

PLEASE RE-CHECK THE ANSWER SHEET TO BE SURE YOU HAVE MISSED NO ITEMS ON THIS PAGE.

84. 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.
85. a. When I make plans, I am almost certain that 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.

86. a. There are certain people who are just no good.
    b. There is some good in everybody.

87. 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.

88. a. Who gets to be the 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.

89. 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.

90. a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
    b. There really is no such thing as "luck."

91. a. One should always be willing to admit mistakes.
    b. It is usually best to cover up one's mistakes.

PLEASE RE-CHECK THE ANSWER SHEET TO BE SURE YOU HAVE MISSED NO ITEMS ON THIS PAGE.

92. 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.

93. 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.

94. a. With enough effort we can wipe out political corruption.
    b. It is difficult for people to have much control over the things politicians do in office.

95. 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.

96. a. A good leader expects people to decide for themselves what they should do.
    b. A good leader makes it clear to everybody what their jobs are.

97. a. Many times I feel that 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.

98. 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.

99. a. There is too much emphasis on athletics in high school.
    b. Team sports are an excellent way to built character.

PLEASE RE-CHECK THE ANSWER SHEET TO BE SURE YOU HAVE MISSED NO ITEMS ON THIS PAGE.

100. 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.

101. 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.

PLEASE RE-CHECK THE ANSWER SHEET TO BE SURE YOU HAVE MISSED NO ITEMS ON THIS PAGE.

Appendix F

SES

Instructions: This questionnaire is a series of statements about your personal attitudes and traits. Each statement represents a commonly held belief. Read each statement and decide to what extent it describes you. There are no right or wrong answers. You will probably agree with some of the statements and disagree with others. Please indicate your own personal feelings about each statement below by marking the letter on the answer sheet that best describes your attitude or feeling. Please be very truthful and describe yourself as you really are, not as you would like to be.

Mark:

A if you DISAGREE STRONGLY with the statement
B if you DISAGREE MODERATELY with the statement
C if you neither agree nor disagree with the statement
D if you AGREE MODERATELY with the statement
E if you AGREE STRONGLY with the statement

49. I like to grow house plants.

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

51. One of my problems is that I cannot get down to work when I should.

52. If I can't do a job the first time, I keep trying until I can.

53. Heredity plays the major role in determining one's personality.

54. It is difficult for me to make new friends.

55. When I set important goals for myself, I rarely achieve them.

PLEASE RE-CHECK THE ANSWER SHEET TO BE SURE YOU HAVE MISSED NO ITEMS ON THIS PAGE.

A if you DISAGREE STRONGLY with the statement
B if you DISAGREE MODERATELY with the statement
C if you neither agree nor disagree with the statement
D if you AGREE MODERATELY with the statement
E if you AGREE STRONGLY with the statement

56. I give up on things before completing them.

57. I like to cook.

58. If I see someone I would like to meet, I go to that person instead of waiting for him or her to come to me.

59. I avoid facing difficulties.

60. If something looks too complicated, I will not even bother to try it.

61. There is some good in everybody.

62. If I meet someone interesting who is very hard to make friends with, I'll soon stop trying to make friends with that person.

63. When I have something unpleasant to do, I stick to it until I finish it.

64. When I decide to do something, I go right to work on it.

65. I like science.

66. When trying to learn something new, I soon give up if I am not initially successful.

67. When I'm trying to become friends with someone who seems uninterested at first, I don't give up very easily.

68. When unexpected problems occur, I don't handle them well.

PLEASE RE-CHECK THE ANSWER SHEET TO BE SURE YOU HAVE MISSED NO ITEMS ON THIS PAGE.

A if you DISAGREE STRONGLY with the statement
B if you DISAGREE MODERATELY with the statement
C if you neither agree nor disagree with the statement
D if you AGREE MODERATELY with the statement
E if you AGREE STRONGLY with the statement

69. If I were an artist, I would like to draw children.

70. I avoid trying to learn new things when they look too difficult for me.

71. Failure just makes me try harder.

72. I do not handle myself well in social gatherings.

73. I very much like to ride horses.

74. I feel insecure about my ability to do things.

75. I am a self-reliant person.

76. I have acquired my friends through my person abilities at making friends.

77. I give up easily.

78. I do not seem capable of dealing with most problems that come up in my life.

PLEASE RE-CHECK THE ANSWER SHEET TO BE SURE YOU HAVE MISSED NO ITEMS ON THIS PAGE.

Appendix G

PSS

Instructions: The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicated how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate. Use the following response code in marking your choices on the answer sheet.

A. Never
B. Almost never
C. Sometimes
D. Fairly often
E. Very often

147. In the last month how often have you been upset because of something that happened unexpectedly?

148. In the last month, how often have you felt that you were unable to control the important things in your life?

149. In the last month, how often have you felt nervous and "stressed"?

150. In the last month, how often have you dealt successfully with irritating life hassles?

151. In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?

152. In the last month, how often have you felt confident about your ability to handle your personal problems?

PLEASE RE-CHECK THE ANSWER SHEET TO BE SURE YOU HAVE MISSED NO ITEMS ON THIS PAGE.

A. Never
B. Almost never
C. Sometimes
D. Fairly often
E. Very often

153. In the last month, how often have you felt that things were going your way?

154. In the last month, how often have you found that you could not cope with all the things that you had to do?

155. In the last month, how often have you been able to control irritations in your life?

156. In the last month, how often have you felt that you were on top of things?

157. In the last month, how often have you been angered because of things that happened that were outside of your control?

158. In the last month, how often have you found yourself thinking about things that you have to accomplish?

159. In the last month, how often have you been able to control the way you spend your time?

160. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

PLEASE RE-CHECK THE ANSWER SHEET TO BE SURE YOU HAVE MISSED NO ITEMS ON THIS PAGE.

Appendix H

The Marlowe-Crowne Scale

Personal Reaction Inventory

Instructions: Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide if the statement is True or False as it pertains to you personally. Indicate your responses by putting an A (True) or B (False) by the appropriate item numbers on the answer sheet.

79. Before voting I thoroughly investigate the qualifications of all the candidates.

80. I never hesitate to go out of my way to help someone in trouble.

81. It is sometimes hard for me to go on with my work if I am not encouraged.

82. I have never intensely disliked anyone.

83. On occasion I have had doubts about my ability to succeed in life.

84. I sometimes feel resentful when I don't get my way.

85. I am always careful about my manner of dress.

86. My table manners at home are as good as when I eat out in a restaurant.

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

88. On few occasions, I have given up doing something because I thought too little of my ability.

89. I like to gossip at times.

PLEASE RE-CHECK THE ANSWER SHEET TO BE SURE YOU HAVE MISSED NO ITEMS ON THIS PAGE.

Response Code: A = True, B = False

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

91. No matter who I'm talking to, I'm always a good listener.

92. I can remember "playing sick" to get out of something.

93. There have been occasions when I took advantage of someone.

94. I'm always willing to admit it when I make a mistake.

95. I always try to practice what I preach.

96. I don't find it particularly difficult to get along with loud mouthed, obnoxious people.

97. I sometimes try to get even rather than forgive and forget.

98. When I don't know something I don't at all mind admitting it.

99. I am always courteous, even to people who are disagreeable.

100. At times I have really insisted on having things my own way.

101. There have been occasions when I felt like smashing things.

102. I would never think of letting someone else be punished for my wrong-doings.

103. I never resent being asked to return a favor.

PLEASE RE-CHECK THE ANSWER SHEET TO BE SURE YOU HAVE MISSED NO ITEMS ON THIS PAGE.

Response Code: A = True, B = False

104. I have never been irked when people expressed ideas very different from my own.

105. I never make a long trip without checking the safety of my car.

106. There have been times when I was quite jealous of the good fortune of others.

107. I have almost never felt the urge to tell someone off.

108. I am sometimes irritated by people who ask favors of me.

109. I have never felt that I was punished without cause.

110. I sometimes think when people have a misfortune they only got what they deserved.

111. I have deliberately said something that hurt someone's feelings.

PLEASE RE-CHECK THE ANSWER SHEET TO BE SURE YOU HAVE MISSED NO ITEMS ON THIS PAGE.

VITA

Gordon D. Schneider was born in Rochester, New York on May 1, 1957. He moved with his family to Asheville, North Carolina in 1964 and attended public school and graduated high school.

Mr. Schneider attended East Carolina University and was actively involved in extracurricular activities and organized the Coeducational Residence Council for the University. During his junior and senior years, he was awarded the Student of Psychology Award from Psi Chi, the national honor society in Psychology. He was President of Psi Chi his senior year and participated in the induction of the new chancellor for the university. After graduating with a degree in Psychology, he worked at Caswell Center for the Mentally Retarded for thirteen months.

In 1982, Mr. Schneider completed requirements for a Master's degree in Experimental Psychology at Appalachian State University. He then began a career as an outpatient therapist in western North Carolina and eventually was promoted to directing the mental health services for a county in North Carolina. He is a licensed clinical psychological associate in North

Carolina. After five years of clinical experience, Mr. Schneider returned to graduate school at the University of Tennessee.

Currently, Mr. Schneider is employed as the Director of Polk Mental Health Center in Tryon, North Carolina. He received his Ph.D. in Education with a concentration in Educational Psychology (specializing in Preventive Mental Health) in December, 1991.