MEASURING SENSE OF CONTROL IN THE AGED

BACKGROUND AND INTRODUCTION TO THE SHAPIRO CONTROL INVENTORY

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UNIVERSITY OF CALIFORNIA
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WHERE SENIORS HAVE BEST SCORES

****3. Lowest negative sense of control scores .000

*10. Satisfaction with mode scores, sig .01.

WHERE SENIORS HAVE DIFFERENT, BUT = VALID SCORES

***12. Acceptance as preferred mode .0000

Refinement of other as sense or control:
family and friends: highest
government and society: highest
***God/higher power: highest

* * *

A research design proposed (but not used), still a good idea!:)

As we discussed, for this pilot study, it seems a delayed treatment cross over design might be easiest and most effective. In this model, those interested in joining your group would be randomly assigned to two groups. One group would receive treatment (of six months or a year, as you decide) and the other group would be told they are on a waiting list, but will receive treatment within the (six month, year period).

Tests are given to both groups at P1, P2 and P3. For the experimental group, P1, serves as a pretest, P2 as a post test, and P3 as a follow up. For the control group, P1, and P2 serve as pretests and P3 as a post test. The design looks as follows:

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There is a growing literature dealing with issues of control and the aged (Baltes and Baltes, 1986; Abeles, 1990; Riley, 1990). Recently, a major review of the literature on aging, sense of control, and health, provided increasingly convincing research evidence demonstrating that a "sense of control" can have profound physical and emotional effects on human wellbeing (for both clinical and normative populations) ranging from small physiological changes to mortality (Rodin, 1986). This review indicated that "self-determining options" could have good and sometimes remarkable effects on morbidity and mortality; that control, as an independent variable, caused decreased corticosteroid and cortisol levels in humans and animals; and that at least in animal studies, the psychoendocrine effects of variations of control appeared to have a significant influence on the immune system (Rodin, 1986; Steptoe and Appels, 1989).

In spite of the interest and promise, however, it has become increasingly apparent, as our understanding of control deepens, that control is a much more complex construct than was initially thought (e.g., Menninger, Maynam, Pruyser, 1963; Rotter, 1966; (Rodin, 1986; Shapiro, Evans, Shapiro, 1987). Recent work is showing that control is a complex, multi-faceted concept, and that the results of having control are not always positive (Thompson, 1988; Burger, 1989). The most promising approach to issues of control and the aged, therefore, appear to be involve a matching approach between personality variables and individual differences with a particular control-enhancing approach (Reich and Zautra, 1990; Evans, Shapiro, Lewis, 1991; Shapiro, in press
The past twenty-five years have seen a plethora of literature dealing with the importance of control and self-control for clinical problems (Strickland, 1990; Peterson and Stunkard, 1989; Rothbaum and Weisz, 1989). For example, there have been efforts to develop and refine non-pharmacological "self-control" strategies to provide patients increased control over their behavior and cognitions (Mahoney and Thoresen, 1974; Shapiro and Zifferblatt, 1976; Shapiro, 1984; Pomerleau and Pomerleau, 1988). Studies have shown that a positive "sense of control" in the aged can come from self-control efforts and feelings of self-efficacy (Alexander, Langer et al, 1989; Bandura, 1977; Shapiro, 1982); control-enhancing options from the environment (Langer and Rodin, 1976; Schutz, 1977); and/or control by a "benevolent other" (Taylor, 1983).

In terms of personality variables and individual differences, several different control-related constructs have been developed and explored, such as learned helplessness (Seligman, 1975); internal/external locus of control (Rotter, 1966); self-efficacy (Bandura, 1977); too much need for control (Glass, 1977); desire for control (Burger and Cooper, 1979; Burger, 1985).

Further, there are several clinical areas in which an impairment of control has been suggested as one of the central features: depression (Seligman, 1975; Abramson, Garber, and Seligman, 1980); the addictions, both drug and alcoholism (Shapiro and Zifferblatt, 1976a; Marlatt, 1983; Nathan, 1986); stress
and anxiety related disorders (Shapiro, 1989a); eating disorders--anorexia, bulimia, and obesity (Wilson, 1985; Brownell et al, 1986; Mitchell et al, 1986; Jeffrey, 1987); Type A Behavior and coronary disease (Glass, 1977; Friedman et al, 1986; Jacob and Chesney, 1984); and the process of psychotherapy (Shapiro, Bates, Greensang, and Carrere 1991). Finally, the perennial wisdom of the great philosophical and religious traditions have all involved control as a major component in achieving exceptional psychological health and wellbeing (Shapiro, 1983c; Heath, 1983). Thus, issues of control apply not only to specific clinical problems, but can involve addressing some of the most fundamental issues facing humans, including issues of identity, meaning and exploration about one's place in the universe, and facing death and dying (Shapiro, 1990). These are clearly critical issues which must be discussed in any comprehensive approach to aging. Examining a positive sense of control in aging, therefore, must include dependent variables which encompass both instrumental, assertive activity (classically defined and operationalized as independence) and examination of modes of control accepting areas in which instrumental activity has been curtailed. Further, control-based clinical (and preventive) interventions must address those issues in a way tailored to each individual.

Before that can happen, however, greater sophistication is required in terms of assessing the control profile of the individual. However, as noted, in spite of the interest and promise related to control, there are several methodological, empirical, and theoretical problems when the construct of control is
applied to human physical and mental health (Shapiro, 1983; Shapiro, Evans, and Shapiro, 1987). Different researchers may mean different things by the term control, and frequently define different aspects of control. Some have failed to distinguish between process and outcome, agent and object, and others have mixed definitions. There is also wide variability between focus on general domain versus domain specific assessment, and in the number and nature of domains addressed. Although a thorough review of this literature is beyond the scope of this presentation (and has been detailed elsewhere <Shapiro, 1991a,b>), several examples are worth noting. First, there has been theoretical blurring between the concept of actual control, and that of perceived control. Peterson and Stunkard (1989) define personal control as an "individual's belief about the degree that he or she can bring about good events and avoid bad events" (italics mine) but then go on to cite research where control is operationalized as actual ability to change environmental contingencies.

Another problem is the mixing of technique and outcome. For example, Averill defined cognitive control as "processing of potentially threatening information in such a manner as to reduce the net long-term stress and/or the psychic cost of adaptation" (1973, p.293). By so doing, he says that cognitive control (technique) is, by definition is effective, thereby obfuscating process and outcome (cf. Folkman, 1984).

However, even the definitions of "actual control" and "perceived control" are often confusing. For example, Weisz and
Rothbaum (1984) initially define control as "causing an intended event (p. 958)." This makes control an all or nothing outcome response. However, later, their definition is softened to "causally influence in an intended direction. (Rothbaum and Weisz, 1989, p. 85). Here it appears as if partial control (influence) is control. And Rodin, in her seminal article on effects of sense of control on health and aging, never defines sense of control, and only in a footnote, tries to define control--as self-determination "...control may best be thought of in the more neutral term, self-determination, to convey the fact that individuals also may choose not to exercise direct control in certain instances and may still feel great freedom as a result of making this decision" (Rodin, 1986, p. 1275, footnote 3). Here we are faced with a metalevel view of control (choice, decision-making) about whether to exercise a mode of control (instrumental control) which in turn may provide one aspect of a sense of control (i.e., freedom).

There have been similar problems with control cognitions. For example, Rotter's internal external locus of control construct is "a belief about the nature of the world...subject's expectation about how reinforcement is controlled. (1966, p. 10). This generalized expectancy belief may or not be similar to an individual's belief about their own ability to address a specific issue. Bandura has referred to the latter as self-efficacy (Bandura, 1977); Weisz as the difference between contingency and competence (1989) and Skinner and Chapman (1989) as the difference between means and ends. More recently, Burger has developed the construct of "desire for control" which is a stable
personality trait reflecting the "extent to which individuals generally are motivated to control the events in their life" (Burger, 1979, p. 382).

Another area which needs clarification involves the issue of agent and object. At one level, it has been shown that internal/external locus of control is not a unidimensional concept, as first proposed by Rotter. Rather, as Levenson (1974) showed, external control is orthogonal to internal control, and two types of external control have been identified: powerful other, and chance. The paradigm of the majority of control studies has been to show that a person's sense of control and positive wellbeing can come from control over the environment (self as agent, environment as object). However, research has also shown the positive effects of control-enhancing options from the environment (Rodin and Langer, 1977); and/or control by a benevolent other—e.g., feeling the Doctor has things in control, Taylor, 1983 (other as agent, self as object). Finally, the literature on self-regulation and self-control (self as agent and self as object) has not yet been fully integrated into the larger control literature (e.g., Mahoney and Thoresen, 1974; Shapiro and Zifferblatt, 1976; Pomerleau and Pomerleau, 1988). For example, recently Bandura (1989), using path analysis showed that coping efficacy (leading to positive behavior change) followed two paths: perceived environmental vulnerability (could one effect control over the environment) and cognitive control efficacy (could one effect control over one's thoughts).

Cross cultural research has also shown that our own cul-
ture's primary emphasis on assertive, instrumental change strategies to effect a sense of control may be both culture bound and limiting (Shapiro, Evans, Shapiro, 1987). Most of the Western psychological research on control has focused on an active, altering mode of control. Generally, in the literature, a contrast is made between individuals who have this assertive, decisive, instrumental mode (qua and people who are more timid, passive, helpless, having too little control (cf. Burger, 1979). The assertive mode of control refers to behaviors, cognitive strategies, choices, and/or personal beliefs designed to alter the environment or the self in accordance with personal needs or goals. This active altering mode of control can be distinguished from a yielding, accepting mode of control wherein the individual accepts and accommodates to his/her surroundings and or self by changing cognitions so that the individual feels comfortable with him or herself and or the environmental situation as it is (Rothbaum, Weisz, Snyder, 1982; Weisz, Rothbaum, Snyder, 1984; Shapiro, 1982, 1983).

To date, the dominant paradigm regarding control might therefore be summarized as follows: 1) having instrumental control over the environment and environmental stressors is positive; and 2) the more control you have (or believe you have), the better. Yet, even amidst the overwhelming evidence supporting the benefits of having control, the early scholarly analyses of control were sounding a note of caution (e.g., Rotter, 1966; Averill, 1973). For example, Averill noted that even in studies where there is a decrease in stress in a majority of subjects who had control, "a sizable minority (typically between 10 and 20% of
the total sample) have shown the opposite pattern of response" (1973, p. 292). In other words, control over a stressor, rather than reducing stress, increased it for a certain segment of the population. Thus, even the early literature on control was suggesting that there were potential problems with the dominant paradigm. Therefore, a model of matching and congruence (Evans, Shapiro, Lewis, 1991) between environmental affordances, behavioral competencies, and control cognitions has been proposed to help delineate when control is dysfunctional.

Thus, there are important unanswered questions which have direct relevance to issues of aging and control. For example, what is the aged's preferred style of coping; how willing are they (and how frequently do they) gain a sense of control from others; how willing are they to allow social control influences in their life. What are individual differences in terms of the most effective strategy(ies) to gain a positive sense of control in different domains of their life. How does sense of control (a psychological construct) relate to, and covary with physical illness; with instrumental and activity level in the aged?

A greater level of discrimination, precision, and sophistication is needed to help provide staff, administrators, clinicians, researchers and the individual him/herself greater understanding, of a person's "control profile." This includes need for control, lack of control, sense of control, the mode of control being utilized, the dimensions of control relevant to an individual's concerns; and the domains in which the problems occur. This precise assessment, in turn, could help bring more
specificity in developing, refining, and tailoring actual cognitive, behavioral, and environmental "control-related" interventions matched to the individual's style and concern.

Based on a major review of the experimental, clinical, and health related literature on control (Shapiro, in press a,b), it is clear that the direction in which the measurement of human control has moved over the past two decades is from the general domain to the specific domain, and from human control as a unitary construct to that of human control as a potentially multifaceted, multidimensional construct. The progression in these inventories is from lesser to greater specificity, and from the view of the "genus" of control as consisting of one unidimensional "species" to multiple "species" (Rotter, 1966; Walston, 1978).

For example, if we look at paper and pencil tests to measure control, one of the "first generation" of tests used was Rotter's internal/external locus of control scale. This is a general domain two point (forced choice) format giving one unidimensional score, in which a person has either an internal or an external locus of control.

Wallston's first version of a Health Locus of Control Scale (1976) was constructed similarly to Rotter's (forced choice, yielding one score for internal-external). There were two differences: questions were asked in a personal rather than a general manner; and the Scale was one step more domain-specific in that it was targeted to give a score for the health domain.

However, based on the work of Levinson, (1974) and others (e.g., Viney, 1974), it was shown that internal and external were not one dimension; but rather that the two dimensions may be
thought of as orthogonal, showing a 0 correlation with each other. Because of this Wallston and colleagues (1976, 1978) developed a "second generation" of test—a Multidimensional Health Locus of Control Scale. This instrument provided for both an internal and an external score. Further, external locus of control was divided into chance (randomness, luck) and powerful other. In addition to these three "constructs" of control, the instrument was domain-specific (health) rather than general domain, like Rotter's.

It was therefore apparent that a "third generation" of test measurement was necessary to build upon, extend, and refine prior efforts to measure control and self-control. It was for these reasons that the Shapiro Control Inventory (SCI) was developed. The SCI, a paper and pencil questionnaire, assesses multi-dimensional multifaceted theoretical and descriptive concepts of control has been developed and field tested over the past decade (Shapiro, 1991). The SCI is a three part inventory designed to measure species, mode, and dimension of control in both a general domain and domain specific way.

Previous studies have used this inventory to refine and more precisely measure the construct of control in both a general and domain specific way, and both reliability and validity measures with the instrument have been completed (see Shapiro, 1991 for summary). These include determining whether it measures what it is supposed to be measuring (face validity); whether it can differentiate between different patient groups on the scales utilized (discriminate validity and construct validation); whether
the questions are understood in a consistent fashion by indi-
viduals over time (test--retest reliability): analysis of items
developed for scale construction (discriminate functional analy-
sis and jackknifed classification); verifying the inventory's
depth (alpha reliability within a domain); factor analytic stud-
ies; and finally, through contrasts with the Rotter and Wallston
tests, whether the inventory measures something different than
previous tests (divergent validation). Several clinical popula-
tions have been assessed (depression, eating disorders, adult
children of alcoholics, generalized anxiety disorder, borderline,
panic attack) and normals.

Specific Components of the Control Profile Include the
following:

1. General Domain Control Profile
   1.1 Level of positive sense of control
   1.2 Belief in ability to gain control
   1.3 Desire for control
   1.4 Effort for control
   1.5 Dimensions of control (responsibility, goal, awareness, discipline, skill, choice)
   1.6 Mode of control (four quadrants: positive change; positive accept; negative assertive; negative yielding)

2. Domain Specific Control Profile
   2.1 Domains: body, mind, interpersonal, self, work, environment)
   2.2 In control/out of control domains
   2.3 Areas of concern
   2.4 Strategy for addressing concern

Specific interaction questions:
Specific subcomponents include learning the following:
1. Determination of whether physical illness level and
   positive sense of control covary;
2. Determination of whether instrumental and activity
   level and positive sense of control covary;
3. Assessment of individual differences of source of
   sense of control: self, family, friends, higher power.
4. Differences in control profile by sex.
5. Differences in control profile by age.
6. Determination of individual differences in preferred
   style and mode of coping.
IMPORTANCE OF CONTROL TO INDEPENDENCE

There is a growing literature dealing with issues of control and the aged (Baltes and Baltes, 1986; Abeles, 1990; Riley, 1990). Recently, a major review of the literature on aging, sense of control, and health, provided increasingly convincing research evidence demonstrating that a "sense of control" can have profound physical and emotional effects on human wellbeing (for both clinical and normative populations) ranging from small physiological changes to mortality (Rodin, 1986). This review indicated that "self-determining options" could have good and sometimes remarkable effects on morbidity and mortality; that control, as an independent variable, caused decreased corticosteroid and cortisol levels in humans and animals; and that at least in animal studies, the psychoendocrine effects of variations of control appeared to have a significant influence on the immune system (Rodin, 1986; Steptoe and Appels, 1989).

Thus, control appears to be a major factor involved in enhancing independence in the elderly. A critical question, therefore, becomes how to define control, how to measure it, and what combination of control-enhancing strategies are most effective for a particular individual.

PREVIOUS CONTROL RESEARCH

Personality Variable, Intervention, Areas of Importance

Personality Variable In terms of personality variables and individual differences, several different control-related constructs have been developed and explored, such as learned helplessness (Seligman, 1975); internal/external locus of control (Rotter, 1966, 1989); self-efficacy (Bandura, 1977, 1989); too much need for control (Glass, 1977); desire for control (Burger and Cooper, 1979; Burger, 1985).

Intervention. The past twenty five years have seen a plethora of literature dealing with the importance of control and self-control for clinical problems (Strickland, 1990; Peterson and Stunkard, 1989; Rothbaum and Weisz, 1989). For example, there have been efforts to develop and refine non-pharmacological "self-control" strategies to provide patients increased control over their behavior and cognitions (Mahoney and Thoresen, 1974; Shapiro and Zifferblatt, 1976; Shapiro, 1984; Pomerleau and Pomerleau, 1988). Studies have shown that a positive "sense of control" in the aged can come from self-control efforts and feelings of self-efficacy (Alexander, Langer et al, 1989; Bandura, 1977; Shapiro, 1982); control-enhancing options from the environment (Langer and Rodin, 1976; Schutz 1977); and/or control by a "benevolent other" (Taylor, 1983). The most promising approach to issues of control and the aged, therefore, appear to be a matching approach between personality variables and individual differences with a particular control-enhancing approach (Reich and Zautra, 1990; Evans, Shapiro, Lewis, 1991; Shapiro, in press a).
**Areas of Importance.** There are several clinical areas in which an impairment of control has been suggested as one of the central features: depression (Seligman, 1975; Abramson, Garber, and Seligman, 1980); the addictions, both drug and alcoholism (Shapiro and Zifferblatt, 1976a; Marlatt, 1983; Nathan, 1986); stress and anxiety related disorders (Shapiro, 1989a); eating disorders--anorexia, bulimia, and obesity (Wilson, 1985; Brownell et al., 1986; Mitchell et al., 1986; Jeffrey, 1987); Type A Behavior and coronary disease (Glass, 1977; Friedman et al., 1986; Jacob and Chesney, 1984); and the process of psychotherapy (Shapiro, Bates, Greensang, and Carrere 1991).

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**PROBLEMS WITH PREVIOUS RESEARCH**

In spite of the interest and promise, however, it has become increasingly apparent, as our understanding of control deepens, that control is a much more complex construct than was initially thought (e.g., Menninger, Maynam, Pruysner, 1963; Rotter, 1966; (Rodin, 1986; Shapiro, Evans, Shapiro, 1987). Recent work is showing that control is a complex, multi-faceted concept, and that the results of having active, instrumental control are not always positive (Thompson, 1988; Burger, 1989).

Previous research has been hampered by methodological, empirical, and theoretical problems. Although a thorough review of this literature is beyond the scope of this presentation (and has been detailed elsewhere <Shapiro, 1991a,b>), several examples are worth noting. Different researchers mean different things by the term control (Peterson and Stunkard, 1989; Rodin, 1990); some have failed to distinguish between: a) process and outcome, (cf. Averill, 1973; Folkman, 1984); b) universal generalized expectancies and specific individual efficacy (Rotter, 1966; Bandura, 1977, 1986; Weisz, 1990; Skinner, Chapman and Baltes, 1989) and others have mixed definitions (Weisz, Rothbaum, and Snyder, 1984; Rothbaum and Weisz, 1989). Finally, there is also wide variability between focus on general domain versus domain specific assessment, and in the number and nature of domains addressed.
MEASURING CONTROL: BACKGROUND, RATIONALE, DESCRIPTION, PRELIMINARY STUDIES OF THE SHAPIRO CONTROL INVENTORY (SCI).

Background, Rationale. Based on a major review of the experimental, clinical, and health related literature on control (Shapiro, in press a,b), it is clear that the direction in which the measurement of human control has moved over the past two decades is from the general domain to the specific domain, and from human control as a unitary construct to that of human control as a potentially multifaceted, multidimensional construct. The progression in these inventories is from lesser to greater specificity, and from the view of the "genus" of control as consisting of one unidimensional "species" to multiple "species" (Rotter, 1966; Walston, 1978).

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It was therefore apparent that a "third generation" of test measurement was necessary to build upon, extend, and refine prior efforts to measure control and self-control. It was for these reasons that the Shapiro Control Inventory (SCI) was developed.

Description. The SCI is a three part paper and pencil questionnaire, consisting of 187 items, requiring approximately twenty-minutes to take, and is readable by those with an eighth grade education. It has been developed and field tested over the past decade (Shapiro, 1991), and is designed to assesses, in both a general domain and domain specific way multi-faceted and multi-dimensional theoretical and descriptive concepts of control.
as follows:

A. GENERAL DOMAIN CONTROL PROFILE. Parts One and Three of the Inventory assess general domain issues. Part One consists of 37 questions, based on a seven point Likert scale of frequency, and addresses all five topics below. Part Three, consists of 49 words, measures an individual's four quadrant mode of control. There are two responses given for each word. The first is a self-rating of how well the word or phrase describes the person (based on a four point Likert scale). The second response is whether the person would like to be the same, more, or less like that word or phrase. Quadrant one, positive assertive involves the ability to alter the environment, others, and oneself; and words include decisive, communicating needs, leading. Positive yielding (quadrant two) involves knowing when a sense of control needs to come from letting go, trusting, and accepting, and words include patient, trusting, accepting. Quadrant three negative assertive involves too much active control and words include manipulating, overcontrolling, dogmatic; quadrant four, negative yielding, involves too little control, and words include indecisive, manipulated, timid. In terms of mode, a health psychological profile is considered to be one in which quadrants one and two are higher than three and four; and individual want to be less characterized as quadrant three and four and more by quadrants one and two.

1. Positive sense of control (versus a sense of losing or lacking control)
   1.1 Source of sense of control (self, family, friends, higher power)
   1.2 Belief in ability to gain control
2. Desire for control (versus fear of losing control)
   2.1 Of Oneself
   2.2 Of others
3. Efforts for control
   2.1 Over oneself (self-control)
   3.2 Over others
4. Dimensions of control
   4.1 Responsibility, goal, awareness,
   4.2 Discipline, skill, choice
5. Mode of control (four quadrants)
   5.1 Positive assertive; positive yielding
   5.2 Negative assertive; negative yielding

B. DOMAIN SPECIFIC CONTROL PROFILE. (Part Two). This involves a six point likert scale format ranging from very in-control to very out of control. Six domain areas are assessed, and then the individual is asked to state a) whether or not the area is a concern; and b) if it is, whether they wish to use an assertive change mode of control; or a yielding accepting mode of control. Thus, the following information is obtained:

1. Domains: body, mind, interpersonal, self, work, environment
2. In control/out of control domains
3. Areas of concern
4. Preferred mode of control for addressing concern
Preliminary Studies Studies have used this inventory to refine and more precisely measure the construct of control in both a general and domain specific way, and both reliability and validity measures with the instrument have been completed. These have been detailed elsewhere (see Shapiro, 1991), and are summarized briefly here. Both rater reliability (Shapiro, 1982) and factor analytic studies using verimax rotation without iteration (Shapiro, 1983;) were done initially to determine the discreteness of the four quadrants for mode of control. Further, initial norms on psychological health, self-control, and social desirability for men and women were obtained from over two thousand individuals from eleven cities across the United States. In addition, alpha reliability studies on mode indicate high internal consistency of the quadrants; item analysis for scale construction have been performed using both discriminate functional analysis and jackknifed classification; and test-retest reliability studies on all three sections show adequate consistency (at a five week interval) in terms of whether the questions are understood in a consistent fashion by individuals over time.

In terms of validity studies, the SCI has been used in both clinical case studies (Shapiro, 1990) as well as in control-group designs (Shapiro, Freedman, Piaget, in press). In terms of the latter, a two year study with Type A individuals with one myocardial infarction, as part of the Recurrent Coronary Prevention Project, indicated that self-control and mode of control, as measured by the SCI correlated with decreased morbidity and mortality. Further a work in preparation (Shapiro, Potkin, Brown, 1991) with four clinical groups—depression, panic, borderline, and generalized anxiety—has shown discriminate validity and construct validation of the SCI. That study also showed the SCI's increased utility in prediction and precision in assessment through contrasts with the Rotter and Wallston tests.

SUMMARY

Control has been shown to be a critical variable in fostering independence in the aged, and in effecting both morbidity and mortality. The current report has reviewed previous control research, shown the problems with prior ways of assessing control, and has provided a summary of the background, rationale, description and reliability and validity studies for a third generation of control assessment, the Shapiro Control Inventory (SCI). The SCI is offered for use because it is multi-dimensional and comprehensive, reflecting the increased sophistication and understanding which has evolved over the past twenty-five years in our understanding of the nature of control.
STATEMENT OF NEED

Recently, a major review of the literature on aging, sense of control, and health, provided increasingly convincing research evidence demonstrating that a "sense of control" can have profound physical and emotional effects on human wellbeing (for both clinical and normative populations) ranging from small physiological changes to mortality (Rodin, 1986). Further, studies have shown that a positive "sense of control" can come from self-control efforts and feelings of self-efficacy (Alexander, Langer et al., 1989; Mahoney and Thoresen, 1974; Shapiro and Zifferblatt, 1976; Bandura, 1977; Shapiro, 1982); control-enhancing options from the environment (Langer and Rodin, 1976; ...) and/or control by a "benevolent other" (Taylor, 1983).

Because of this promising research, the National Institute on Aging and the National Institute of Child Health and Human Development (1989) have issued a call for papers for research projects on "Sense of Control Over the Life Course."

However, in spite of this interest and promise, there are several methodological, empirical, and theoretical problems when the construct of control is applied to human physical and mental health (Shapiro, 1983; Shapiro, Evans, and Shapiro, 1987). For example, a distinction has now been made between generalized control expectancies (internal/external locus of control) as first identified by Rotter (Rotter, 1965, 1973, 1989) and individual control beliefs as detailed by Bandura's self-efficacy theory (Bandura, 1977; 1989; Skinner and Chapman, 1989). Further, there have been refinements in agent and object; desire for control has been distinguished from locus of control (Burger,
1979; 1986); different modes of control, primary and secondary (Weisz, Rothbaum, 1984) and both individual specific and culture specific responses to control-related issues have been identified; and the importance and higher validity of domain specific data have been discovered (Appels and Steptoe, 1989; Wallston, 1989).

Thus, there are important unanswered questions which have direct relevance to issues of aging and control. For example, what is the aged's preferred style of coping; how willing are they (and how frequently do they) gain a sense of control from others; how willing are they to allow social control influences in their life. What are individual differences in terms of the most effective strategy(ies) to gain a positive sense of control in different domains of their life. How does sense of control (a psychological construct) relate to, and covary with physical illness; with instrumental and activity level in the aged?

A greater level of discrimination, precision, and sophistication is needed to help provide staff, administrators, clinicians, researchers and the individual him/herself greater understanding, of a person's "control profile." This includes need for control, lack of control, sense of control, the mode of control being utilized, the dimensions of control relevant to an individual's concerns; and the domains in which the problems occur. This precise assessment, in turn, could help bring more specificity in developing, refining, and tailoring actual cognitive, behavioral, and environmental "control-related" interventions matched to the individual's style and concern.
ACCOMPLISHMENTS/BACKGROUND

Based on a major review of the experimental, clinical, and health related literature on control (Shapiro, 1992a,b), it is clear that the direction in which the measurement of human control has moved over the past two decades is from the general domain to the specific domain, and from human control as a unitary construct to that of human control as a potentially multifaceted, multidimensional construct. The progression in these inventories is from lesser to greater specificity, and from the view of the "genus" of control as consisting of one unidimensional "species" to multiple "species" (Rotter, 1966; Walston, 1978).

It therefore became apparent that a "third generation" of test measurement was necessary to build upon, extend, and refine prior efforts to measure control and self-control. It was for these reasons that the Shapiro Control Inventory (SCI) has been developed and field tested over the past decade (Shapiro, 1991). The SCI, a paper and pencil questionnaire, assesses multi-dimensional multifacted theoretical and descriptive concepts of control. The SCI is designed to gain information of both a general domain and a specific domain nature.

Previous studies have used this inventory to refine and more precisely measure the construct of control in both a general and domain specific way, and both reliability and validity measures with the instrument have been completed (see Shapiro, 1991 for summary). These include determining whether it measures what it is supposed to be measuring (face validity); whether it can differentiate between different patient groups on the scales utilized (discriminate validity and construct validation); whether
the questions are understood in a consistent fashion by individuals over time (test--retest reliability); analysis of items developed for scale construction (discriminate functional analysis and jackknifed classification); verifying the inventory's depth (alpha reliability within a domain); factor analytic studies; and finally, through contrasts with the Rotter and Wallston tests, whether the inventory measures something different than previous tests (divergent validation). Several clinical populations have been assessed (depression, eating disorders, adult children of alcoholics, generalized anxiety disorder, borderline, panic attack) and normals.

This current study attempts to extend the work of the SCI by applying it to the institutional aged. In so doing, this study is a beginning effort to develop a control based profile of the institutional aged, and to serve as a pilot study for a larger grant to the National Institute of Aging.

RELATIONSHIP TO AGRC AND CAMPUS PLANS

The current study, if funded, will undertake nursing home research utilizing subjects from some (or all) of the AGRC four affiliated nursing homes (and the VA).

OBJECTIVES

The purpose of this study is to serve as a pilot study for a larger grant to be submitted to NIA. After consultations with NIA about their call for research projects, it was determined that they will not fund test development studies, but they will fund innovative tests which measure control. Therefore, the current study attempts to extend the author's previous work on
sense of control to the institutional aged.

The overall objective of this study is to begin the development of a control-based profile of the institutional elderly by age, sex, activity level, functioning level, and physical illness.

Specific subcomponents include learning the following:

1. Determination of whether physical illness level and positive sense of control covary;
2. Determination of whether instrumental and activity level and positive sense of control covary;
3. Assessment of individual differences of source of sense of control: self, family, friends, higher power.
4. Differences in control profile by sex.
5. Differences in control profile by age.
6. Determination of individual differences in preferred style and mode of coping.

Specific Components of the Control Profile Include the following:

1. General Domain Control Profile
   1.1 Level of positive sense of control
   1.2 Belief in ability to gain control
   1.3 Desire for control
   1.4 Effort for control
   1.5 Dimensions of control (responsibility, goal, awareness, discipline, skill, choice)
   1.6 Mode of control (four quadrants: positive change; positive accept; negative assertive; negative yielding)

2. Domain Specific Control Profile
   2.1 Domains: body, mind, interpersonal, self, work, environment
   2.2 In control/out of control domains
   2.3 Areas of concern
   2.4 Strategy for addressing concern

METHODOLOGY

SUBJECTS AND SETTING. Data will be collected from two hundred subjects (100 male, 100 female) at the four affiliated nursing homes and the VA nursing home associated with AGRC.

TEST Measurements.

For physical symptoms: The Hopkins Symptom Checklist (SCL77) will be used. The SCL 77 is a standard paper and pencil
test to assess a person's physical symptoms.

For instrumental and activity level: The ADL and IADL will be used to measure instrumental and activity level ((Katz, 1963; Department of Health and Human Services, 1990).

For control. The SCI (Shapiro Control Inventory) will be used. The SCI is a three part inventory which measures the objectives described under "Control above."

EVALUATION: DATA ANALYSIS

Each of the general and domain specific control scores (SCI) will be correlated (Spearman correlation coefficients) with physical symptoms (SCL77); instrumental and activity level (ADL and IADL); as well as age and sex. A correlation matrix of those scores will be formed, and adjusted for multiple tests of significance by using the Bonferroni procedure.
REFERENCES


Shapiro, D.H. (1982) Comparison of meditation with other self-


Weisz, JR; Rothbaum, FM; Blackburn, TC. (1984) Standing out and standing in: The psychology of control in America and Japan. American Psychologist. 39,9, 955-969.