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THE RELATIONSHIP OF LOCUS OF CONTROL AND
ACCEPTANCE OF DISABILITY

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Rehabilitation Counseling

by
Erin Cumming Martz

March 1999

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ACCEPTANCE OF DISABILITY

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Approved by:


Dr. Joseph Turpin, Chair
Department of Educational Policy
and Research

3/25/99
Date


Dr. Dudley Wiest
Department of Educational
Psychology and Counseling

ABSTRACT

The purpose of this study was to determine if individuals' locus of control was related to their acceptance of disability. Eighty-eight out of 200 randomly-chosen subjects with disabilities from a southern California community college completed Livneh and Antonak's (1991) Reactions to Impairment and Disability Inventory (RIDI), Rotter's (1966) I-E Locus of Control Scale and a demographic profile. Acceptance of disability was defined as both acknowledgment and adjustment to a disability. A t-test score of 1.77, df (86), $p < .05$ indicated a significant relationship between the adjustment scores of individuals with an internal locus of control and the adjustment scores of individuals with an external locus of control. Techniques to encourage change in locus of control were discussed.

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Introduction

The adjustment to the traumatic and painful events of life can be an extremely challenging process for many people. Some of these shocking occurrences, such as acquiring a disability, may have a "massively extensive effect on a person's life" (Gunther, 1971). Because the ultimate goal of rehabilitation is the "life adjustment" (Livneh, 1988) of individuals with disabilities, then the multifaceted impact of a disability should be examined by rehabilitation professionals and their clients.

Rehabilitation has been described in a multidimensional manner, represented by spheres of functioning, basic behavioral processes, and levels of actions (Hershenson, 1977). Livneh (1987) presented a multidimensional model, containing three dimensions, which included functional activities, operational contexts, and environmental settings.

Rehabilitation also has been depicted as the third stage, called "tertiary intervention," in a multi-level model of prevention (Wright, 1980; Hershenson, 1990; Livneh, 1995). In the application of the three-stage model of prevention to rehabilitation, the tertiary stage of rehabilitation is defined as containing three components (Livneh, 1995, p. 28): the minimization of the impact of the disability; the compensation for the disability by

skill development; and the manipulation of environmental conditions to lessen their impact upon the medical, psychosocial and vocational aspects of an individual's life.

Addressing the adjustment issues faced by individuals with disabilities is part of the disability minimization in the tripartite rehabilitation model in the three-stage model of prevention (Livneh, 1995).

According to Livneh and Antonak (1990, 1991, 1997), as individuals adapt to their disability, they may pass through the following eight stages of psychosocial reactions: shock, anxiety, denial, depression, internal anger, external hostility, acknowledgment and adjustment. This research project will focus on the last two stages of this process, acknowledgment and adjustment, which were defined by Livneh and Antonak (1990, 1991, 1997) as intellectual acceptance and emotional acceptance respectively.

In Livneh and Antonak's (1997) psychosocial model of adaptation to a disability, four groups of variables were described that could alter individuals' rate and outcome of their adaptation to a disability. According to Livneh and Antonak (1997), three of the four categories of variables that may influence adaptation are *intrapersonal*: the illness-related, sociodemographic, and personality factors. The fourth category of variables is the group of *interpersonal* factors, which include the socioeconomic and

physical environments, the attitudinal barriers, and the social and family supports. The purpose of this research project is to investigate whether the *intrapersonal* variable of locus of control influences the acceptance of disability, or the latter stages of the process of adaptation to a disability.

Studies have shown that the locus of control of individuals may be related to their adjustment. Poll and De-Nour (1980) found that individuals' adjustment to experiencing chronic hemodialysis was related to their locus of control. Wolk's (1976) research indicated that a relationship existed between locus of control and adjustment with situational constraints as a moderator.

Mazzulla (1981) found a relationship between locus of control and acceptance of disability for individuals with traumatic brain injury (T.B.I.). Moore, Stambrook & Wilson's (1991) research demonstrated that locus of control, after controlling for severity of injury and education, was significantly related to psychosocial outcomes for individuals with T.B.I..

The following sections will discuss the construct of locus of control, including definitions of locus of control; how it is conceptually distinct from attribution theories, self-efficacy and the loci of causality and responsibility; whether Rotter's I-E Locus of Control Scale is a

unidimensional or a multidimensional measurement; and how a locus of control scale was selected for this research project. Subsequently, the definitions of acceptance of disability will be discussed before the research results of this project are examined.

Locus of Control

Definition of Locus of Control

Extensive research on locus of control has occurred over four decades since Phares (1955), James (1957), Rotter, Seeman and Liverant (1962), and Rotter (1966) began to test for differences in individuals' perceptions of influence in their world. The first locus of control scales (Phares, 1955; James, 1957) were designed to study skill-chance situations. These early studies designated someone, who demonstrated a tendency to attribute events occurring in his or her life to skill, as having an internal locus of control orientation. Believing that chance determined the events in one's life was called an external locus of control orientation in Phares' (1955) and James' (1957) studies.

This original focus on attributions of skill versus chance soon developed into studies of the perception of control of the positive or negative reinforcements that followed one's behavior. Many researchers, who have utilized the locus of control construct, have not made a clear distinction between the concepts of *attributions*,

which were present in the first locus of control studies, and the distinction that Rotter (1966) made, in which locus of control was a belief about control over reinforcements:

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 . . . 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 (p. 1).

Gurin, Gurin, Lao, and Beattie (1969, p. 29) defined internal locus of control as a person's belief that rewards follow from, or are contingent upon, his own behavior. An external control was a belief that rewards are controlled by forces outside himself and thus may occur independent of his own actions (Gurin et al., 1969, p. 29).

Friedman, Goodrich, and Fullerton (1985) rephrased Rotter's explanation to describe an internal locus of control as perception that "the interpersonal reinforcements they receive [are] a function of their own actions, characteristics, or skills." In contrast, individuals with an external locus of control believed that reinforcements following his or her actions were not related to his or her choices but controlled by external agents like chance or powerful others (Friedman et al., 1985).

Note that the later version of the locus of control

construct, as defined by Rotter (1966), did not describe a cause-effect pattern of a primary behavior or attributions of an event. Instead, Rotter's (1966) definition of locus of control focused on the subjective perception about occurrences of positive or negative reinforcements following a behavior.

Rotter's (1966) definition of individuals with an external locus of control was that they may perceive that the reinforcements occurring in their life as a direct consequence of "powerful others," which could mean either social, political, divine or other kinds of forces to an individual. For example, if individuals had an external locus of control orientation and their hours at work were just decreased, they might believe that it was a consequence of having an unlucky week or that this was a punishment from a divine force for arguing with their coworkers. Or if they had an internal locus of control orientation, they might believe that their boss chose to cut their hours because they appeared to be overly stressed and argumentative with their coworkers.

Having an external locus of control about a reinforcement does not necessarily mean that the reinforcing event *is* in reality out of the control of an individual. An external locus of control could mean that the individual is denying that control or the responsibility for the

reinforcement that follows his or her behavior. In a similar manner, having a perception of an internal locus of control does not mean necessarily that the reinforcements following a behavior were, in fact, under the control of the individual. The reinforcements, which individuals with an internal locus of control perceive as connected with their behavior, may not be a consequence of their behavior, but were caused by other circumstances. For example, if an individual receives a raise, he or she may think it is because they are doing a good job (internal locus of control). That individual may not realize that he or she is receiving a raise because of the predetermined one-year increase or because of the across-the-board increase gained by the union. What is important is who or what is perceived as being in control of the reinforcement that follows individuals' actions.

Rotter (1966, 1975) described his I-E locus of control as a generalized expectancy of control. Phares (1976, p. 16, quoting Rotter, 1955), described *expectancy* as the "probability held by the individual that a particular reinforcement will occur as a function of a specific behavior on his part in a specific situation or situations."

For example, if individuals believe that they are being discriminated against, they may apply this belief to other events in their life, prompting them to expect

discrimination (a negative reinforcement).

Rotter (1966, 1975) denoted locus of control as a *generalized expectancy*, because it was formed from the summarized experiences and attitudes in one's life. Generalized expectancies about present and future control were determined by the reinforcement history of the individual (Steinhausen, 1982, p. 614). As Lefcourt (1972) explained, individuals simultaneously could maintain varying, specific locus of control expectancies toward different aspects of their lives, which contribute to a generalized expectancy of locus of control.

To better illustrate how the locus of control construct, let us take the example of deciding to shop at a particular store. The decision of particular individuals, which may have many antecedents, is to shop at Store X for Product Y.

Their primary behaviors are that they find time to go to that store with the goal of buying Product Y. If they find Product Y, they may experience positive reinforcement, and consequently may be supported in their generalized locus of control about their decision-making and follow-through abilities, or in their specific locus of control perspective about receiving reinforcements when going to that store to shop. If they go to that store and do not find Product Y, or find it at a color, style or price that they do not like, then they may still maintain their generalized internal

locus of control, despite receiving the negative reinforcement of not finding the exact product they wanted.

If they had a generalized external locus of control, then if they did not find Product Y exactly as they wanted, they may claim that it was due to being their unlucky day or that a divine force was punishing them. Thus, the negative reinforcement was a result of a particular outside force that was not a consequence of their behavior.

As part of his social learning theory, Rotter (1966, 1975) stated that the locus of control construct was one of three variables that were combined for predicting behavior.

The other two variables were the individual's psychological situation and the value of the reinforcement for that individual. Many studies utilizing the locus of control construct did not take into account these other two variables (Palenzuela, 1984). Let us take the above example to further illustrate the interaction of the three variables of Rotter's social learning theory.

Do individuals find Product Y, yet not buy it because of their psychological situation of anxiety over a tight budget? Or do they find Product Y, and even though their budget is extremely tight, it is such a wanted item or a "value" to them (because of their need, advertising, social pressure or other reasons, such as living in a third-world country, where the demand may exceed the supply of this

product) that they buy it despite their psychological situation of anxiety over money? In spite of the psychological situation surrounding the purchase, they achieved a positive reinforcement of obtaining the product due to the value of that reinforcement to them.

The above examples of Store X and Product Y, though seemingly insignificant, were used to help illustrate the definition of the locus of control construct. The following three sections will discuss some of the distinctions of locus of control from the concepts of attribution, self-efficacy and responsibility.

Locus of Control and Attribution Theories

Many researchers have investigated the concept of "control of causality," or the attribution of responsibility for an event. Attribution theories are commonly acknowledged to have been introduced by Heider (1958).

Weiner's (1979) theory on causal attribution distinguished the ascriptions of responsibility for events by a three-way distinction between loci of causality, stability, and controllability. By his definitions, Weiner (1979) "separated locus of control into *locus* and *control*, which were considered as two independent attributional dimensions" (Palenzuela, 1984, p. 684). Later, these three variables were expanded into "personal versus impersonal causality," "controllability versus uncontrollability" of a

cause, and "causal controllability versus responsibility" (Weiner, 1995, p. ff.).

Another attribution theorist was White (1991), who categorized causal attributions as intentional (or nonintentional) and conscious (or unconscious) actions, which were done for reasons that were internal or external to the individual. Abramson, Seligman, and Teasdale's (1978) research defined the internal attribution of personal helplessness as when an event was perceived to be uncontrollable by the individual. An external attribution of universal helplessness, according to Abramson et al. (1978), was defined as when the event was perceived as uncontrollable for all people.

Pettersen (1987, p. 204) attempted to clarify the distinctions between locus of control and causal attribution in the following manner. Causal attribution was an individual's perceiving of a given determinant as a cause of what happens to him. Locus of control, or behavioral outcome contingency, was an individual's believing that he can control what happens to him.

Zuroff (1980, as quoted by Palenzuela, 1984, p. 684) distinguished between locus of control and attribution theories in two different ways:

- a) Locus of control is evaluated before an outcome has happened while attributions are evaluated afterwards;

b) Internal-external in Rotter's theory refers to whether the outcome is perceived as contingent or noncontingent with one's behavior; while in attribution theory, internal-external refers to whether the causes are physically inside or outside a person.

To summarize, attribution theories examine whether the individual perceives to be in control of or responsible for the occurrence of an event in his or her life. In contrast, locus of control theories depict the individual's perception of the control of reinforcements that follow the individual's primary actions or behaviors.

Locus of Control and Self-Efficacy

Another concept that should be distinguished from locus of control and attribution theories is self-efficacy. Self-efficacy is defined by Bandura (1986) and Schunk and Carbonari (1984) as "personal judgments of how one can implement behavior in situations that contain novel, unpredictable, or stressful events" (Schiaffino & Revenson, 1992, p. 710). According to Bandura (1977, 1986), the self-efficacy expectancy "depends on a perception of contingency and involves confidence in attaining a desired outcome through one's own action" (Strickland, 1989, p. 4). Bandura (1977, quoted by Litt, 1988, p. 149) defined self-efficacy as one's confidence in his or her ability to behave in such a way as to produce a desirable outcome.

Wallston, Wallston, Smith and Dobbins (1987, p. 9) depicted self-efficacy as "the person's belief that he/she can engage in a specific behavior." Wallston et al. (1987) combined the concepts of locus of control and self-efficacy into a broader category called "perceived control," which was "the belief that one can determine one's own internal states and behavior, influence one's environment, and/or bring about desired outcomes."

Self-efficacy appears to be a concept very similar to locus of control. Yet, recall that Rotter's (1966) definition of an external locus of control as "when a reinforcement is perceived by the subject as following some action of his own but not being entirely contingent upon his action" Locus of control refers to the perception of who or what controls the occurrence of reinforcements that follow events or actions in one's life. In contrast, self-efficacy refers to whether the individual perceives to be in control over the causation of an initial action or behavior that precedes a reinforcement or consequence of a behavior.

How does self-efficacy differ from attribution theories?

Like self-efficacy, causal attribution refers to the initial activity, event or behavior. Whereas self-efficacy describes whether or not an individual perceives to have the power (or not) to execute a specific action in the present or future, attribution theories examine whether the

individual maintains the perception to have caused the past event by himself or herself (Wallston et al., 1987, p. 10).

In contrast to self-efficacy and causal attribution, which attempts to designate the perceived source of causation for primary behaviors, locus of control describes the perception of who or what causes the occurrence of reinforcements following initial events or behaviors. Hence, locus of control describes one step after the cause-effect sequence of behavior.

When researching the psychosocial situation of a disability, attribution theories may be useful in discussions about perceived responsibility for the causation of a disability. Attribution theories would depict the perceptions of different sources of control such as chance, luck, destiny, the influence of others, and the complexity of the environment in the case of external sources, and the individual's own personal characteristics and behavior in the case of internal sources (Pettersen, 1987) that might have caused the disability.

When utilizing the locus of control construct in research on the psychosocial effects of disabilities, this construct should not be viewed as part of a measurement of perceptions on the causation of a disability. Instead, a generalized expectancy of locus of control would reflect individuals' perceptions about their power to influence the

reinforcing events that occur in their life that follow their selected behavior, which may be useful information, especially if a disability requires active maintenance or compensation.

For example, if studying a group of individuals with diabetes, the locus of control construct may be used to depict their perceptions, such as: do individuals believe that insulin reactions are unrelated to any of their activities (external locus of control)? Or do they believe that their blood sugars are controllable and are based on what they have done and eaten in the past hours (internal locus)? Thus, the usage of locus of control does not reflect the perceptions of the diabetics as to whether they feel "guilty" or responsible for the occurrence of their disability, or whether they believe that their environment was the cause of the disability. Locus of control describes control of reinforcements after behaviors.

To summarize the distinction made between locus of control, attribution, and self-efficacy theories in this research project, locus of control describes the perception of who or what controls the reinforcements that follow one's actions. Whereas, attribution and self-efficacy theories discuss the perception of control for the causation of the behaviors themselves. Yet, all three theoretical viewpoints are based on the subjective perception by the individual.

All three concepts describe the control of events occurring in an individual's life, though attribution and self-efficacy depict the occurrence of primary events. Locus of control describes the occurrence of secondary events, or the reinforcements that follow the primary outcomes.

Loci of Control and Responsibility

Sue (1978, 1990) introduced the concept of locus of responsibility, in order to correct the failure of Rotter's I-E scale to take into consideration different cultural and social experiences of the individual. Sue's (1990, p. 143) view of locus of control presented three possible reasons for high externality: a) chance-luck, b) cultural dictates that are viewed as benevolent, and c) a political force (racism and discrimination) that represents malevolent but realistic obstacles.

Sue (1978, 1990) discussed that an external locus of control was not necessarily a bad quality to have, since various cultures have encouraged some of the qualities of externality, such as a belief in a divine force (i.e., the "powerful others" in the I-E Scale). Shapiro, Potkin, Jin, Brown, Carreon, and Wu (1993, p. 36) noted that Rotter's I-E Scale contained an implicit cultural bias in understanding control, and assume[d] that if one does not have active control, one is either resigned or helpless." Yet, Rotter

(1975, p. 60) wrote that the problem of the "good guy-bad guy" concept entered into locus of control studies by the assumption that "it is good to be internal." Such an assumption, stated Rotter (1975, p. 60), led to the viewpoint that "all good things are characteristic of internals and all bad things are characteristic of externals," which, as he stated, was not the purpose of the internal-external distinction.

Palenzuela (1984) also wrote that the "expectancy of contingency," or internal locus of control, was not something inherently good or desirable. Palenzuela (1984, p. 699) explained that an internal locus of control could be viewed as "more adaptive and desirable than the expectancy of noncontingency [external locus of control] if it is congruent with the real situation; that is, if the real situation allows the behavior of an individual to exert control over an outcome." If it, in reality, is not possible for an individual to control the reinforcements in an outcome, then "an expectancy of noncontingency [external locus of control] would be more desirable" (Palenzuela, 1984, p. 699).

Sue (1978, p. 460) proposed a locus of responsibility as an individual-system blame dimension, consisting of four kinds of world views that were based on locus of control and locus of responsibility. Yet, other locus of control

studies have acknowledged the effect of ethnicity and socio-economic status, which was Sue's (1978) primary reason for creating the "locus of responsibility." For example, Phares (1976, p. 37) discussed how the locus of control variable was both "a situational variable and a personality variable," such that in many research studies, individuals' socio-economic status, gender, ethnicity and education were found to effect their locus of control.

Further, Rotter's (1966) social learning theory described locus of control interacting with both the psychological situation and value of the reinforcement. Both of these variable could be influenced by individuals' social and economic backgrounds. Phares (1970, p. 156) wrote that "there is a strong suggestion that persons in groups with restricted access to significant power or material advantages often develop external orientations." Rotter (1966, p. 24) also discussed how "direct cultural teaching of internal-external attitudes" can influence a social group's locus of control by altering the antecedent locus of control attitudes.

Sue (1990, p. 143) wrote that his locus of responsibility theory was based upon attribution theory. Recalling the previous section's distinction between attribution theories and locus of control, Sue's locus of responsibility could be classified as an attribution theory

by its denoting the source of the causation or "blame" for events as either caused by the person or elements in the system. By its focus on causation as either in the person or from the system, Sue's (1990) locus of responsibility differed from the locus of control construct, because locus of control referred only to the control, not the causation, of reinforcing events.

Selection of a Locus of Control Scale

Rotter's (1966) I-E Scale was selected for this study, instead of the many other locus of control scales, for reasons described in the following paragraphs. Because the process of rehabilitation is viewed as holistic and includes many different levels and aspects of an individual (Livneh, 1988), a more general locus of control scale was chosen over a scale that focused on a specific aspect of individuals, such as Wallston, Wallston and DeVellis's (1978) Multidimensional Health Locus of Control (MHLC), which tested specific locus of control beliefs about physical illnesses.

The MHLC (Wallston et al., 1978) would have excluded other areas of adaptation to a disability by its questions that focused on one's physical health. That is, the wording of the MHLC would not have allowed the testing of any non-physical disabilities, such as learning disabilities, into the research design. In addition, Umlauf and Frank (1986)

found that when utilizing the MHLC (Wallston et al., 1978) in a rehabilitation setting, the MHLC "did not support the original multidimensional concept of a health locus of control by the study's indication that 'the Powerful Others' and 'Chance' subscales are not independent of each others."

Wallston et al.'s (1978) MHLC scale was developed based on Levenson's (1973, 1974) tripartite locus of control scale. Levenson (1974) ran a factor analysis and found three variables in Rotter's (1966) I-E Scale. Levenson (1974) subsequently developed a locus of control scale with Internal, Powerful Others, and Chance subscales. Levenson's scale was not chosen for this research project because of research, such as Pettersen's (1987, p. 206), which reported that Levenson's (1974) operational definition of locus of control was mixed with attributional concepts. As described previously, attribution and locus of control constructs should be treated as distinct concepts..

Shapiro, Potkin, Jin, Brown, Carreon, and Wu (1993, p. 36) categorized the construct of control into four quadrants: positive assertive (active control), positive yielding/acceptance (letting-go control), negative assertive (over-control), and negative yielding (too little control).

Shapiro et al. (1993, p. 35) noted that the concept of control was multi-faceted, "of which locus of control is only one aspect." Because the Shapiro Control Inventory

(1993) was developed to measure more factors that were connected with perceptions of control than just locus of control, this inventory was not utilized in this research project. The Shapiro Control Inventory (1993) also was not chosen for this research project, in view of Shapiro et al.'s (1993, p. 36) definition of acceptance as a passive "letting go of control." As will be discussed later in this paper, acceptance should be viewed as an active process.

Shapiro et al. (1993, p. 36) added an active versus passive dimension to the locus of control studies, in order to express a motivational variable of desire or effort for control. Yet, Lefcourt's (1967, quoted by Joe, 1971, p.633) indicated that "the lack of goal-striving behavior of externals was due to their being less perceptive of reinforcement opportunities rather than to lack of motivation." Given the situation of knowing that "achievement reinforcements were available," Lefcourt (1967) found that individuals with an external locus of control were "more achievement-conscious than internals."

MacDonald (1971, p. 115) pointed out why locus of control was an expectancy, not a motivational, variable: "Finding that persons do not try to improve their conditions because of negative expectancies does not indicate that those persons do not want to improve their conditions." MacDonald (1971, p.111) proposed that "an individual who is

motivated to change his circumstances but who does not try to effect change because he has a negative expectancy for success." Tseng (1970, p.490) found no significant correlations between locus of control and the two motivational variables of his study, which supported the theory the locus of control was "an expectancy variable rather than a motivational one."

In summary, a locus of control scale that measures generalized expectancies, and not specific expectancies, may be a better measurement tool to use in rehabilitation, because novel situations especially will call forth generalized expectancies (Phares, 1994). That is, because an event, such as experiencing a disability, may not have occurred before in an individual's life and therefore is a novel situation, then individuals may not have formed an expectancy what kinds of reinforcements to expect in this new situation. Consequently, individuals may utilize their generalized expectancy toward reinforcements surrounding a new event, such as their disability. This is why it is more appropriate in this study to use Rotter's I-E Scale, which reflects generalized expectancies, rather than health-specific locus of control scales.

Is the Locus of Control Construct Multidimensional?

Many researchers have conducted a factor analysis of Rotter's (1966) I-E Scale and have found subscales,

indicating that Rotter's scale was multi-dimensional.

Different numbers and types of subscales were found, such as Mirels (1970); Berzins and Ross (1973); Levenson (1974); Marsh and Richards (1987); Niles (1981); Kleiber, Veldman, and Menaker (1973); Lao (1970); and Gurin, Gurin, Lao and Beattie (1969).

Though Marsh and Richards (1987) found a five-factor model, they also found evidence that first-order factors do define a single higher-order construct that may represent the generalized I-E construct that Rotter originally hypothesized. McInish and Lee (1987) also found a single-factor solution in their test of multidimensionality of Rotter's I-E scale.

Mirels (1970), Berzins and Ross (1973), and Forrester (1982) presented theoretical and empirical evidence that the I-E Scale was multidimensional. Each of these studies found two separate measures: one concerned perceived personal control. The second reflected perceived control of broader social events (Lefcourt, 1972, p. 14). Other researchers, such as Abramowitz (1973); Kleiber, Veldman and Menaker (1973); Viney (1974); Camargo and Reznikoff (1975); Roberts and Reid (1978); Forrester (1982); and Marsh and Richards (1987) have investigated the two subscales in Rotter's (1966) I-E scale. Viney (1974) named these two subscales of Rotter's (1966) I-E Scale as personal and

social responsibility scales. Mirels' (1970, p. 227) factor analysis of Rotter's I-E Scale distinguished Factor One (Personal Locus of Control) as a measurement of "the respondent's control over his own destiny against one which assigns such control to external forces." Factor Two, according to Mirels (1970, p. 228), measured "the respondent's acceptance or rejection of the idea that a citizen can exert some control over the political and world affairs," in which "the social system rather than the individual [is] the target of control.

In contrast to the above research on the existence of subscales, Phares (1976, p. 47) described Rotter's (1966) I-E scale as always multidimensional, because the scale "is an additive one, a scale that samples locus of control beliefs in a variety of situations. Such a scale, by its nature, is multidimensional."

Palenzuela (1984, p. 689) distinguished the multifactoriality from the multidimensionality of the I-E scale, writing that "the fact that the [I-E] scale is multifactorial, however, does not necessarily mean that the construct to be measured is multidimensional."

Multidimensionality of the I-E Scale, according to Palenzuela (1994, p. 691), would mean that Rotter's (1966) scale was based on three theoretical concepts that were distinct, rather than the "three specific areas of locus of

control," which reflects multifactoriality.

Because Rotter's I-E scale is a generalized expectancy scale, then it must represent a range of locus of control perceptions, including both perceptions of individual control and of control by environmental or external forces.

As Phares (1976, p. 51) suggested, "by distinguishing several components of locus of control, an enhancement in prediction is achieved." Hence, the different factors found within the general locus of control should not be viewed as undermining the concept, but as part of the generalized nature of the construct.

Summary on Locus of Control

Locus of control can be distinguished from attribution and self-efficacy theories by its referring to the perception of control over reinforcements, not to the control of the causation of the primary event. That is, "internal locus of control is defined as the perception that an individual has of being able to influence the occurrence of reinforcements around him by his behavior . . . [and the external locus of control] is the perception of being able or not being able to change the probability that a reinforcement might occur" (Pettersen, 1987, p. 206).

The construct of locus of control does not refer to the perception that individuals caused an event to occur, but whether the individual perceived himself or herself to be in

control of reinforcements connected with that event. For example, people continuously are receiving bonuses or pay-increases in the work-world. Do individuals believe that they have control over whether that reinforcing event will occur in their life, based on their behavior. Or do individuals believe that its occurrence is a chance happening or controlled by "powerful others" and not according to their actions?

Locus of control may be discussed in the context of disabilities. Rotter (1975, p. 57) described that "the relative importance of generalized expectancy goes up as the situation is more novel and ambiguous and goes down as the individual's experience in the situation increases." Thus, when confronting a new situation, such as experiencing a disability, the expectancy of control over the reinforcements most likely will be generalized to the new circumstances. Even exacerbations of chronic illnesses could be viewed as new situations in which the locus of control may be generalized, based on the individual's history of perceived control of reinforcements.

Locus of Control and Acceptance

Research has uncovered relationships between locus of control and adaptation to a disability. Mazzulla (1981) found that the locus of control for individuals with spinal cord injuries became more internal as their acceptance of

disability increased. Brooks and Matson (1982) found that individuals with multiple sclerosis, who had a more internal locus of control, also had a more positive adjustment score.

Moore and Stambrook's (1991) research indicated that locus of control was significantly related to the adjustment outcomes for individuals with traumatic brain injuries. Poll and De-Nour (1980) found that for individuals with chronic hemodialysis, who had an internal locus of control, "adjust and adapt better" than those with an external locus.

Parkes' (1984) demonstrated that individuals with a more internal locus of control had an overall better degree of direct coping and lower degree of suppression in stressful situations than individuals with a more external locus of control. Anderson's (1977) research indicated that those individuals, who had just experienced a financial loss due to a flood and who at that time tested as having an external locus of control, utilized "fewer problem-solving coping methods . . . and more emotion-directed coping devices . . . [Also, these individuals] were more likely to have perceived their circumstances as being highly stressful" than those with an internal locus of control. Compas, Banez, Malcarne, and Worsham (1991, quoted by Hewitt and Flett, 1996, p. 414) found that problem-focused coping was consistently related to internal locus of control; whereas, emotion-focused coping was unrelated to locus of control.

Research has demonstrated relationships with locus of control and qualities related to job-performance. For example, Tseng's (1970) research demonstrated a relationship between locus of control and many work qualities, finding individuals with an internal locus of control higher on the following abilities: the ability to work with others, cooperation, self-reliance, courtesy, reliability, care of equipment, safety practices, compliance with rules, work tolerance, and work knowledge. Tseng (1970) also found that individuals with an internal locus of control scored higher than individuals with an external locus on the following areas of the Sixteen Personality Factors test: quick to grasp ideas, conscientious, overly cautious, moderate, calm and satisfied.

Strickland (1978, p. 1193) summarized research, which indicated that individuals with an internal locus of control were more likely to "take steps to change aversive life situations" than individuals with an external locus of control. This tendency may prove to be important when an individual with a disability is confronted by difficult circumstances, such as inaccessible buildings or workplaces, or their own health-related challenges.

Acceptance of Disability

Acceptance and Value-Changes

Dembo, Leviton, and Wright (1956) and Wright (1960,

1983) defined the "acceptance" of the "loss" caused by a disability as entailing a process of four value-changes. These changes in an individual's values would lead to a decreasing intensity and negativity of feelings about one's disability. The four value-shifts would counteract the potential or present psychological damage of a disability to one's self-concept or self-esteem. Livneh and Antonak (1997, p. 6) described what these four "reevaluation changes" of Dembo et al. (1956) entailed:

- 1) The enlargement of the scope of values, or the recognition of the existence of values other than those directly affected by the disability;
- 2) Subordination of physique relative to other values, or decreasing the relative importance of physical appearance in comparison to other personal abilities and values;
- 3) Containment of disability effects, or limiting the deleterious impact of disability spread to nonaffected areas; and
- 4) Transformation of comparative-status values to asset values, or replacing external-based (i.e., standard, normative) abilities and qualities with internal-based (i.e., inherent, intrinsic) values and qualities.

Keany and Glueckauf (1993, p. 207) also defined acceptance in terms of value-changes. They stated that

acceptance was the "reorganization of instrumental and terminal values in a person's value system to accommodate life changes brought on by a disability." To define acceptance, Keany and Glueckauf (1993) utilized Rokeach's (1973) concepts of "terminal values" as idealized states of being, and of "instrumental values" as idealized and desirable ways of acting.

Scofield, Pape, McCracken & Maki (1980) defined acceptance in a similar way to Dembo et al. (1956) and Wright's (1960, 1983) concepts of value-changes. Scofield et al. (1980, p. 183) wrote that acceptance was when "the individual is able to incorporate the disability and its functional limitations as one of many personal characteristics in a manner indicative of its relative value." Scofield et al. (1980, p. 185) also stated that acceptance was reached when clients "make the greatest use of their assets while minimizing their limitations."

Similar to the value-change of subordinating the physique as described by Dembo, Leviton, and Wright (1956) and Wright (1960, 1983), Atkins, Lynch and Pullo (1982) defined acceptance in terms of body-image. Atkins, Lynch and Pullo (1982, p. 58) quoted Sofilius-Rothschild's (1970) view of acceptance as "a relatively optimal condition in which a disabled person brings about such changes in his/her body image as are absolutely necessary so that reality is

not sacrificed." Atkins, Lynch and Pullo (1982) also mentioned Grayson's (1952) and Siller's (1969) depiction of acceptance in terms of body-image. Grayson (1952) presented an allegory of an individual's body-image as a jig-saw puzzle. Siller (1969) described that the disability was a malformed piece that must fit into the puzzle of one's body-image.

Dual Aspects of Acceptance

Livneh (1980, p. 27) defined acknowledgment as the "first step toward accepting a disability . . . on a cognitive-intellectual level; whereas acceptance included both the cognitive and emotional-affective levels. After further research, Livneh (1986a, p. 6) described the final stage of adaptation to a disability as consisting of three substages: 1) cognitive, which included acknowledgment or reconciliation; 2) affective, which was acceptance or assimilation, and; 3) behavioral, which was the final adjustment, adaptation or reconstruction of an individual's psychosocial state after experiencing a disability.

After extensive work on the temporal ordering of psychosocial stages of adaptation, Livneh and Antonak (1990, 1991, 1997) defined acceptance as containing a cognitive aspect and an affective aspect. They designated acknowledgment as an intellectual acceptance and adjustment as an emotional acceptance of a disability. Acknowledgment

and adjustment constituted the final two stages of the psychosocial process of adaptation to a disability (Livneh and Antonak, 1990, 1991, 1997).

Livneh and Antonak (1990, 1991, 1997) defined intellectual acceptance, or acknowledgment, as the "cognitive recognition . . . of the future implications stemming from the disability and the gradual integration of the functional limitations associated with the condition into one's self-concept" (1990, pp. 13-14). In comparison, emotional acceptance, or adjustment, involved a different kind of integration than intellectual acceptance, since adjustment was "an affective internalization . . . of the functional implications of an impairment into one's self-concept coupled with behavioral adaptation and social reintegration into the newly perceived life situation" (Livneh & Antonak, 1990, p. 14).

Acceptance as an Undesirable State

To accept a disability also can be viewed as a sign of defeat, giving up or passivity. Several derogating views of acceptance have been propounded, suggesting that when individuals accept their disabilities, they self-define themselves as inferior, subordinate, helpless, and inadequate; that society expected these individuals to mourn their loss and know his/her place as a minority member; or that their disability is . . . an undesirable

state to be vacated as quickly as possible (Thoreson and Kerr, 1978, p. 23).

Kendall and Buys (1998, p. 16-17) argued that stage models of adjustment to a disability, such as Livneh and Antonak's (1990), was a form of "social oppression," because these models implied an acceptance of the "role and status of a 'disabled' person." Kendall and Buys (1998, p. 17) also contended that stage models of adjustment did not acknowledge the recurrent nature of adjustment as new circumstances were encountered. Kendall and Buys (1998) also argued that the "subjective experience" of individuals with disabilities were ignored by stage theories of adaptation, since individuals may not want to adjust to their disabilities because it signified the "acceptance of a situation that is unacceptable."

Acceptance of a disability was described as a state of passivity, in which an individual acknowledged "that the problem had occurred, but that nothing could be done about it" (Porter & Stone, 1996, p.139). Shapiro and Astin's (1998, p. 42) definition of acceptance as letting go of active control also reflected a passive view of acceptance.

Though many events, such as the occurrence of a disability, may be in reality out of the control of individuals, there are disabilities that require active participation of the individual, such as juvenile diabetes

or other disabilities that require continuous, active maintenance. Consequently, the passive, avoidant, or "giving up" type of acceptance may be a harmful attitude for individuals with certain types of disabilities to maintain, and therefore will not be used in this project.

Thoreson and Kerr (1978, p.24) proposed that acceptance should be redefined as a process of tolerance of disability, because "the concept of tolerance heeds the inevitable pain and suffering that goes with a chronic disability, but, at the same time stresses the intrinsic or asset value of the individual." If acceptance is not defined as a continual process, it implies a "static, unchangeable state" of helplessness (Thoreson & Kerr, 1978, p. 24).

Further, Maes, Leventhal and De Ridder (1996, pp. 234-5) described the results of many studies, which indicated that "patients who use avoidant emotion-focused strategies have more difficulty in adjusting to chronic disease than those who use the active problem-focused strategies." According to these studies, which involved different kinds of disabilities, an active, problem-focused orientation promoted psychological adjustment (see Maes, Leventhal & De Ridder, 1996, p. 234-5). Consequently, in order to avoid the passive, helpless view of acceptance of a disability, accepting a disability should be viewed as a choice or process that involves an active, problem-solving focus in

order to facilitate coping with a disability.

Acceptance, Adjustment and Adaptation

Rehabilitation research has discussed many different kinds of models of adaptation to a disability. Acceptance of disability has been presented in different ways, such as Shontz's (1965) "acknowledgment and adaptation" stages; Drotar, Baskiewicz, Irvin, Kennell, and Klaus's (1975) "adaptation and reorganization" stages; Yano, Alexander and Kuwanoe's (1976) reconstruction stage; and Falek and Britton's (1974) "equilibrium" stage. Other researchers have defined the end-stage adaptation to a disability in terms of coping behaviors, such as Verwoerd's (1972) model of mastery and control, and Lipowski (1969, 1970) and Kiely's (1972) coping models to threat of loss (see Livneh, 1986a, pp. 14-15).

Roessler and Bolton (1978) discussed the difference in defining adjustment as either a state or process. If adjustment is viewed as a state, individuals may overvalue the concept and "develop unrealistically high expectations about what they should be able to accomplish in their lives" (Roessler & Bolton, 1978, p. 4). Depicting adjustment as an achievement (state) "presumes that all problems are solvable and does not prepare one to deal with the senseless aspects of life, such as a disability, disease, or natural disaster" (Roessler & Bolton, 1978, p. 4, quoting Securest & Wallace,

1967). In contrast, viewing adjustment as a process "does not imply that life will ever be trouble-free. Instead, it focuses on how people meet stress and on what events influence their efforts to adapt to it" (Roessler & Bolton, 1978, pp.4). People have adjusted to a situation if they effectively cope with the problems in their lives and are not overwhelmed by them (Roessler & Bolton, 1978).

In their psychosocial model of adaptation, Livneh and Antonak (1997) presented a clarification of the semantic differences between "adaptation" and "adjustment." Adaptation was defined as "an evolving, dynamic, general process through which the individual gradually approaches an optimal state of person-environment congruence" (p. 8). In contrast, adjustment referred "more specifically to a particular phase (i.e. set of experiences and reactions) of the psychosocial adaptation process" (p. 8), or "a theoretically optimal level of functioning constituting a distal (e.g., advanced, positive, adaptive) phase, reaction or experience within an overall psychosocial adaptation process following the onset of a chronic illness or disability" (Livneh & Antonak, 1997, p. 424).

Because of the empirical research supporting their model, Livneh and Antonak's (1990, 1991, 1997) model of psychosocial adaptation is utilized in this research project. Hence, acknowledgment and adjustment, as an

intellectual and emotional acceptance respectively, are the final two stages of the adaptation process. Adaptation refers to the eight stages of psychosocial reactions that individuals may experience and is a nonlinear, multidimensional, and hierarchical process (Livneh & Antonak, 1997, p. 25).

Summary on Acceptance

The above-mentioned research indicates that acceptance of a disability can be defined in a multitude of ways. Acceptance can be viewed in terms of value-changes (Dembo, Leviton, and Wright, 1956; Wright, 1960, 1983; and Keany and Glueckauf, 1993); of value changes emphasizing one's positive assets and integration (Scofield, Pape, McCracken & Maki, 1980); of changes in body image (Cephaelis-Rothschild, 1970; Grayson, 1952); of derogating viewpoints, such as accepting an inferior, subordinate, minority status, or depicting disability as an undesirable state (Thoreson & Kerr, 1978); of acceptance as a form of "social oppression" by accepting the "role and status of a 'disabled' person or by accepting a situation that was "unacceptable" (Kendall and Buys, 1998); of passivity or defeatism (Porter & Stone, 1996); of passivity, or letting go of active control (Shapiro & Aston, 1998); of acknowledging and adjusting to a disability by cognitive and emotional changes (Livneh, 1980), or by cognitive, emotional, and behavioral changes

(Livneh, 1986a, 1986b; Livneh and Antonak, 1990, 1991, 1997).

In view of Maes' et al. (1996) summary of research on the efficacy of active, problem-focused strategies for promoting psychological adjustment, as well as the necessity for individuals' active participation in managing their disabilities, acceptance is defined in this paper as an active process. In addition, the two-part definition of acceptance from Livneh and Antonak's (1990, 1991, 1997) model of psychosocial adaptation to a disability will be used as the fundamental conceptualization of acceptance in this research. That is, acceptance is defined in two parts: acknowledgment as the intellectual acceptance, and adjustment as the emotional acceptance of a disability. In this research project, acknowledgment and adjustment are discussed, along with individuals' locus of control perspective, in order to investigate some of the factors that may be involved with individuals' reintegration of their self-concept when having a disability.

Hypotheses

- 1) There is no difference between the adjustment scores of subjects with an internal locus of control and the adjustment scores of subjects with an external locus of control.
- 2) There is no difference between the acknowledgment scores

of subjects with an internal locus of control and the acknowledgment scores of subjects with an external locus of control.

Method

Subjects

200 subjects were randomly selected from a pool of 596 individuals, who were registered in a community college's program for students with disabilities in Southern California. Out of the 200 subjects contacted by mail, a total of 100 subjects responded. 54 subjects responded to the first mailing of the questionnaires. A second mailing to 146 non-respondents elicited 46 respondents. Nine of the returned questionnaires were rejected because no disability was given. Two of the questionnaires were rejected because the same individuals responded twice. One subject did not complete one questionnaire, so that the information was rejected. A total of 88 responses was obtained.

The mean age was 37 (SD=12), with a minimum age of 19 and maximum of 74. The mean age of onset of disability was 16 (SD=15). The mean of the time that passed from the occurrence of the disability was 20 years (SD=14).

51 subjects were female (58.0%). 37 subjects were male (42.0%). The ethnicity reported included the following: 51.7% White; 14.9% African-American; 1.1% Asian-American; 3.4% American-Indian; 26.4% Hispanic; 2.3% Other. The

marital status of the subjects was: 55.7% single; 18.2% married; 6.8% separated; 15.9% divorced; and 3.4% widowed.

The cause of disability was: birth disorder, 40.2%; accident, 24.1%; illness, 14.9%; other, 16.1%; not stated, 4.6%. The type of primary disability reported was: 19.3% physical/visible; 30.7% physical/invisible; 25.0% learning; and 25.0% mental disabilities. 77.3% reported to have an invisible disability; 22.7% had a visible disability.

The educational status was reported as: 56.3% had a high-school education; 35.6% had completed 1-2 years of college; 4.6% had 3 or more years of college; 2.3% had a Bachelor's degree; and 1.1% had above a Bachelor's degree.

70.5% of the subjects stated that they are not working right now. 23.9% reported to be currently working part-time. 5.7% said that they now work full-time. The amount of work experience was: 22.7% reported no paid or unpaid work experience. 1.1% had unpaid work experience under one year. 1.1% had unpaid work experience that totaled one year to two years. 8.0% had paid work experience under one year.

12.5% had paid work experience from one to two years. 14.8% had paid plus unpaid work that totaled over 2 years. 39.8% had 5 years of more of paid work experience.

The career-field interest stated was the following:
Teachers/ counselors, 31.8%; Medical field, 10.2%;
Security/legal work, 3.4%; Food service, 3.4%;

Clerical/business, 12.5%; Construction/maintenance, 6.8%; Communication, 5.7%; Computers/electronics/auto, 15.9%; Undecided, 8.0%; Other, 2.3%. 78.4% reported that they did not work in their career field. 21.6% said that they currently work in their career area of interest.

Instruments

The Reactions to Impairment and Disabilities Inventory (RIDI) by Livneh and Antonak (1989) was used, which provided the following subscales: Shock, Anxiety, Denial, Depression, Inter-Anger, External Hostility, Acknowledgment and Adjustment (Appendix A). Two of the eight subscales of the RIDI were utilized for this study: Acknowledgment and Adjustment.

Rotter's (1966) I-E Locus of Control Scale was administered, which was a 23-item scale, with six filler questions (Appendix B). The I-E Scale provided a single score to reflect locus of control perceptions.

Livneh and Antonak's (1989) demographics sheet was adapted with the addition of questions on work experience and visibility of disability (Appendix C). The visibility of disability was tested by the question: Can an observer tell by looking at you that you have a disability? In addition, the primary impairment or disability listed by the subject was grouped into one of the following categories: Visible physical disability; Invisible physical disability;

Learning disability; or Psychological disability. Questions on work experience included length of experience in a paid or unpaid position; hours per week worked; the career field of interest; and whether the subject was currently working in that field.

Procedure

The two questionnaires, an informed consent form (Appendix D), and the demographics sheet were mailed to each person, accompanied by a white envelope that was stamped confidential and a stamped envelope that was addressed to the community college's program for students with disabilities. Instructions were included to return the forms in the envelope marked confidential, which was to be placed in the stamped, addressed envelope to ensure confidentiality and anonymity.

Instructions also were given for those individuals that did not have a physical disability to mark Reaction is Never Experienced for those questions on the RIDI that ask specifically about a physical disability and it did not apply to them (Appendix D). A coupon for a free meal at a local hamburger chain was offered to all respondents. 100 coupons were sent to respondents.

Results

Findings

An independent samples t-Test was performed to detect

the presence of significant differences between the adjustment scores of subjects with internal locus of control scores and the adjustment scores of individuals with external locus of control scores. A significant relationship, $t(86)=1.77$, $p<.05$, was found between adjustment scores of subjects with an internal locus of control and those subjects with an external locus of control. Consequently, the null hypothesis #1 was rejected.

Subjects with an internal locus of control had higher adjustment scores than individuals with an external locus of control.

An independent samples t-Test was performed to detect the presence of significant differences between the acknowledgment scores of subjects with internal locus of control scores and the acknowledgment scores of subjects with external locus of control scores. No significant relationship was found between acknowledgment scores of subjects with an internal locus of control and subjects with an external locus of control. Hence, the null hypothesis #2 was not rejected.

Limitations of This Study

This study is limited to a population of subjects with visible and invisible disabilities at San Bernardino Community College in Southern California, and therefore does not represent the population of individuals with

disabilities in general. Yet, the nearly equal percentage of people with learning disabilities, physical invisible disabilities, physical visible disabilities and mental disabilities indicates that this group may represent a good cross-section from the community college population, who have signed up with or utilized the services to students with disabilities on the community college campus.

Joseph Turpin (1998, personal communication) suggested that another limitation of this study was that a large portion of the individuals with invisible disabilities may have remained unidentified in the community college classroom. The unidentified individuals with disabilities may not have sought help yet with the Disabled Students Services and Programs because they have not recognized or acknowledged their disability. It was also possible that these unidentified individuals with visible or invisible disabilities felt well-enough adjusted that they did not seek help or selected courses, in which they were confident of success without assistance from outside sources (Turpin, 1999, personal communication).

Other limitations of this study include the size of the population, the mean age, the gender and the educational status of the population that participated in this research.

Because this study was based on two self-reported questionnaires, the "fake good" phenomenon may have applied

to the answers given on the questionnaires.

Since 25% of the subjects of this study reported a learning disability, then the requirement of filling out two questionnaires and a demographics sheet may have caused problems for some of these individuals in terms of comprehension and response. Also, individuals with a learning disability were instructed to answer "Reaction has never been experienced" for the questions of the RIDI that asked about reactions to a physical disability, if these questions did not apply to them. These instructions may have been confusing to or misinterpreted by some individuals.

In view of Rotter's (1966) social learning theory, another limitation of this study was the lack of information about the value of reinforcements for the individuals. The information gathered by RIDI could have been viewed as representing the psychological situation of individuals. But the value of accepting a disability was not elicited from the individuals in this project.

Discussion

Because a significant difference was found between the adjustment scores of individuals with an internal locus of control and the adjustment scores of individuals with an external locus of control, then the following section is a brief discussion on how to promote a change in the locus of

control orientation in individuals, followed by a section on encouraging adjustment of individuals with disabilities..

Changing Locus of Control Orientation

After crisis resolution through psychotherapy had been achieved by clients in crisis, Smith (1970) found a significant shift toward an internal locus of control. Smith (1970) found that non-crisis clients, who experienced the equivalent number of psychotherapy sessions, did not demonstrate the same shift toward internality as the clients with crisis-resolution. Smith (1970, p. 332) cautioned that since no pre-crises locus of control scores were available, then the findings of his study were only tentative.

The efficacy of an action-oriented psychotherapy in changing locus of control orientations was demonstrated by Dua, 1970. Dua (1970) found that individuals in reeducative therapy programs demonstrated less movement toward internal locus of control than individuals in an action-orientated program that focused on specific behaviors. Helweg (1971) distinguished the type of psychotherapy that was effective for specific control orientations, finding that individuals with a more external locus of control preferred more directive therapy; whereas individuals with an internal locus of control preferred non-directive psychotherapy. Hill and Bale (1981) found that clients with an internal locus of control preferred analytic therapists, compared to

individuals with an external locus of control, who tended to chose behavioral therapists.

Rotter hypothesized that individuals with a more internal locus of control would be "resistive to subtle attempts" of influence, such as by a therapist. Research has backed up Rotter's hypothesis that individuals with an internal locus of control are "less conditionable" than those with an external locus orientation (Gore, 1962; Strickland, 1970; Jolley and Spielberger, 1973; Alegre and Murray, 1974; and Getter, 1966; see Lefcourt, 1982, pp. 48-ff for descriptions). Further studies, such as by Ritchie and Phares (1969) and James, Woodruff, and Werner (1965), as described by Lefcourt (1982), clarified that individuals with an internal locus of control were "not simply resistant to any influence, but [were] discriminating about what influences they will accept." Strickland (1978, p. 1203) summarized research which indicated that individuals with an internal locus of control "prefer more client-control than do external . . . and respond more positively to nondirective approaches in which therapist intervention is minimal and structure is not imposed from the outside. . . [Whereas] externals . . . appear more positively influenced by structured approaches."

Examples of locus of control change-techniques were given by MacDonald (1972, p. 45), such as challenging and

confronting "external statements"; rewarding internal statements; getting the client to recognize the contingencies of his or her behavior by questioning what could have been differently, what could be done now, or what he or she would do in the future to cope with specific problems that might be faced. Lefcourt and Ludwig's (1965) research, quoted by Joe (1971), found that an external locus of control can be shifted to a more internal expectancy "if new goals could be cognitively linked to old successes."

Encouraging Adjustment

Scotfield, Pape, McCracken and Maki (1980) proposed an ecological model of adaptation in which the individual with a disability is continually interacting with feedback from the environment, by means of four types of exchanges: Individual Response, Individual Reception, the Response Tendency of Environmental Agents and the Environmental Normative Standards. Intervention strategies to promote adaptation were suggested by Scotfield et al. (1980), which were targeted to one of the four response or reception tendencies. For example, behavioral interventions, such as contracting, desensitization, role-playing, and modeling, would be useful in encouraging more appropriate response tendencies by individuals (Scotfield et al., 1980). In order to facilitate an individual's reception of environmental feedback, interventions, such as restoring perceptual

modalities, perceptual discrimination techniques, pain or stress management, and relaxation training, could promote a greater receptive ability. Attempts at modifying environmental normative standards can be made by advocacy, community education and professional training in rehabilitation to minimize stigmatization.

Livneh (1986b, p. 8) provided a list of suggested strategies to promote acceptance, including: value-clarification training; greater realization of existing strengths; assuming control and responsibility for one's internal states; goal-setting with time-limits and alternative plans; humor; learning problem-solving and decision-making skills; modeling new behaviors; changing or restructuring the environment.

Conclusion

Because a significant difference was found between the adjustment scores of individuals with an internal locus of control and the adjustment scores of individuals with an external locus of control, then rehabilitation counselors may want to consider helping the client to achieve a more internal locus orientation, in order to encourage a greater adjustment to a disability. Some strategies for facilitating changes in locus of control orientations by means of action-oriented psychotherapy were discussed. To summarize some of the research findings, the more directive

psychotherapy approaches were found to be more preferred by individuals with a more external locus of control; whereas non-directive psychotherapy was preferred by individuals with an internal locus of control (Helweg, 1971). Counselors may face greater resistance from clients with an internal locus of control, if clients perceive that the counselor is attempting to subtly influence them (Rotter, 1966), such as by utilizing therapeutic techniques that are more directive.

Because the acceptance of disability is depicted in this paper as an active, problem-focused process and the definition of adjustment to a disability includes behavioral, emotional and social integration (Livneh and Antonak, 1990, 1991, 1997), then a variety of therapies addressing different kinds of problems in a client's life could be utilized, as long as these therapies encourage active involvement of the client. Further, because an internal locus of control orientation reflects clients' generalized understanding that they fundamentally can control reinforcements by their choices of behavior, the promotion of a more internal, generalized expectancy of locus of control may help clients to adapt better to their disability, since this perspective of a generalized control includes issues related to their disability.

Experiencing a disability may have caused some clients to doubt whether they are indeed in control of the

reinforcements in their lives, because they may have mixed attributional concepts about the responsibility for the cause of the disability with the control of reinforcements connected with their disabilities. Since the locus of control construct describes the control of post-behavior reinforcement (see Appendix G), then adjustment issues may be framed in terms of understanding individuals' ability to control input from the environment, especially as related to their disabilities.

Because "disability" is defined in the field of rehabilitation as the "loss or reduction in the physical, mental, or affective performance or functional level of the individual" (Livneh, 1987, p. 10), then an internal locus of control perspective can help individuals adjust to their disabilities by helping them realize the control over reinforcements that they do have in the functional or performance of their life. If individuals with disabilities perceive themselves as having control over reinforcements by means of their behaviors, then they may be more likely to be able to face the functional limitations, or the behavioral, emotional and social issues of the disability, despite a perception of having a lack of control over the origination of a disability in their lives.

In conclusion, rehabilitation counselors can assist individuals in adapting to their disabilities by helping

clients to separate the attributional concept of responsibility for the causation of their disabilities from the concept of acceptance by encouraging that they take an active role in maintaining an optimal level of health and functioning, despite a disability. Further, by discussing the concept of locus of control on a level that the clients can understand, rehabilitation counselors can help clients to feel a greater ability to control the stimuli or reinforcements coming from the environment. It may be important to discuss the concept of control over reinforcements with clients, since their experiences of having a disability may have caused them to doubt their capabilities of controlling the reinforcements coming from their environment.

Appendix A:
Reactions to Impairment and Disability Inventory

Reactions to Impairment and Disability Inventory

Following is a list of possible reactions to the occurrence of a physical impairment or a disabling condition. Please circle the appropriate number to the right of each statement that indicates to what extent you are experiencing each specific reaction to your impairment or disability. There are no "right" or "wrong" answers. The degree to which you truly experience each reaction, as expressed by the statements, should be your answer. Please respond to all statements on the inventory as honestly as possible. The information you provide will remain completely anonymous.

1	=	Never	Reaction is never experienced
2	=	Rarely	Reaction is seldom experienced, 1 to 4 times per month
3	=	Sometimes	Reaction is occasionally experienced, 5 to 10 times per month
4	=	Often	Reaction is frequently experienced, 10 or more times per month

- | | | | | |
|--|---|---|---|---|
| 1. Since I became physically impaired, I am less interested in other people. | 1 | 2 | 3 | 4 |
| 2. If I become a better person, my problems will be cured. | 1 | 2 | 3 | 4 |
| 3. Since I became physically impaired, I cry more often than I used to. | 1 | 2 | 3 | 4 |
| 4. When I look back on what has happen to me, I feel bitter. | 1 | 2 | 3 | 4 |
| 5. God will cure me, if I improve my behavior and follow His ways. | 1 | 2 | 3 | 4 |
| 6. I am a failure as a person. | 1 | 2 | 3 | 4 |
| 7. I am satisfied with my present abilities despite my physical impairment. | 1 | 2 | 3 | 4 |
| 8. Since I became physically impaired, I have attacks of panic. | 1 | 2 | 3 | 4 |
| 9. My impairment must be a punishment for something I did in the past. | 1 | 2 | 3 | 4 |
| 10. I am embarrassed about my physical impairment. | 1 | 2 | 3 | 4 |
| 11. There are more important things in life than those that my physical impairment prevents me from doing. | 1 | 2 | 3 | 4 |
| 12. I have difficulty finding a reason to get up in the morning. | 1 | 2 | 3 | 4 |
| 13. If I were nicer to people, I would regain my abilities. | 1 | 2 | 3 | 4 |
| 14. I am rearranging some of my life priorities. | 1 | 2 | 3 | 4 |
| 15. Although I am restricted in certain ways, there is still much I am able to do. | 1 | 2 | 3 | 4 |
| 16. My life is empty. | 1 | 2 | 3 | 4 |

OVER PLEASE . . .

Please respond to every statement.

1 = Never

2 = Rarely

3 = Sometimes

4 = Often

- | | | | | | |
|-----|--|---|---|---|---|
| 17. | I find myself trembling without any apparent reason. | 1 | 2 | 3 | 4 |
| 18. | It makes my blood boil to have somebody talk about my physical impairment. | 1 | 2 | 3 | 4 |
| 19. | I have been through a crisis and feel that I understand things better. | 1 | 2 | 3 | 4 |
| 20. | I feel that nothing will ever be the same again. | 1 | 2 | 3 | 4 |
| 21. | Since I became physically impaired, I have periods of hot or cold spells. | 1 | 2 | 3 | 4 |
| 22. | I am certain that I will be completely cured. | 1 | 2 | 3 | 4 |
| 23. | When I look at other people, I am eaten up with jealousy. | 1 | 2 | 3 | 4 |
| 24. | I am so restless that I cannot sit still. | 1 | 2 | 3 | 4 |
| 25. | Nobody is going to tell me what to do. | 1 | 2 | 3 | 4 |
| 26. | I get mad enough to smash things. | 1 | 2 | 3 | 4 |
| 27. | When I look in the mirror, I see myself and not a disability. | 1 | 2 | 3 | 4 |
| 28. | My mind goes blank. | 1 | 2 | 3 | 4 |
| 29. | I feel lonely even when with friends. | 1 | 2 | 3 | 4 |
| 30. | Everything in my life is coming together again. | 1 | 2 | 3 | 4 |
| 31. | Since I became physically impaired, I have periods of nausea. | 1 | 2 | 3 | 4 |
| 32. | I blame myself for what happened to me. | 1 | 2 | 3 | 4 |
| 33. | I find myself asking: "Why did this happen to me?" | 1 | 2 | 3 | 4 |
| 34. | I feel frozen. unable to move. | 1 | 2 | 3 | 4 |
| 35. | I am seeking new meaning for my life. | 1 | 2 | 3 | 4 |
| 36. | I am interested in getting socially involved with other people. | 1 | 2 | 3 | 4 |
| 37. | I feel that there is nothing I can do to help myself. | 1 | 2 | 3 | 4 |
| 38. | I cannot believe that this is happening to me. | 1 | 2 | 3 | 4 |
| 39. | I got a raw deal out of life. | 1 | 2 | 3 | 4 |

NEXT PAGE PLEASE...

<i>Please respond to every statement.</i>				
1 = Never	2 = Rarely	3 = Sometimes	4 = Often	

- | | | | | |
|--|---|---|---|---|
| 40. I do not mind accepting help when I need it. | 1 | 2 | 3 | 4 |
| 41. I will soon be just as I was before. | 1 | 2 | 3 | 4 |
| 42. Since I became physically impaired, I have periods when my heart pounds. | 1 | 2 | 3 | 4 |
| 43. I think that it is all a nightmare from which I will soon awaken. | 1 | 2 | 3 | 4 |
| 44. Since I became physically impaired, I have periods of breathlessness. | 1 | 2 | 3 | 4 |
| 45. I am impatient with the medical treatment recommended for me. | 1 | 2 | 3 | 4 |
| 46. I realize that my physical impairment is part of me, but I do not let it interfere with my life. | 1 | 2 | 3 | 4 |
| 47. I feel like getting even with someone. | 1 | 2 | 3 | 4 |
| 48. I feel like screaming at others. | 1 | 2 | 3 | 4 |
| 49. I feel confused about what is happening to me. | 1 | 2 | 3 | 4 |
| 50. I believe that nothing is wrong with me. | 1 | 2 | 3 | 4 |
| 51. I am interested in forming new friendships. | 1 | 2 | 3 | 4 |
| 52. I believe that my physical impairment will go away by itself. | 1 | 2 | 3 | 4 |
| 53. Since I became physically impaired, I have nightmares. | 1 | 2 | 3 | 4 |
| 54. I find myself arguing more with people. | 1 | 2 | 3 | 4 |
| 55. Despite my physical impairment, I can do most things non-impaired people can do. | 1 | 2 | 3 | 4 |
| 56. I cannot absorb everything that is happening to me. | 1 | 2 | 3 | 4 |
| 57. It makes me angry when people try to help me or do things for me. | 1 | 2 | 3 | 4 |
| 58. I am interested in making plans for my future. | 1 | 2 | 3 | 4 |
| 59. It is difficult to keep my mind on one thing. | 1 | 2 | 3 | 4 |
| 60. I can cope with almost all problems I face. | 1 | 2 | 3 | 4 |

OVER PLEASE ...

Appendix B:
Internal-External Locus of Control Scale

Directions

Please answer these items *carefully* but do not spend too much time on any one item. Be sure to find an answer for *every* choice. For each numbered question, make an X on the line beside either the *a* or *b*, whichever you choose as the statement most true.

In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to respond to each item *independently* when making your choice; do not be influenced by your previous choices.

Remember:

Select the alternative which you *personally believe to be more true*.

I more strongly believe that:

1. a. Children get into trouble because their parents punish them too much.
 b. The trouble with most children nowadays is that their parents are too easy with them.
2. a. Many of the unhappy things in people's lives are partly due to bad luck.
 b. People's misfortunes result from the mistakes they make.
3. a. One of the major reasons why we have wars is because people don't take enough interest in politics.
 b. There will always be wars, no matter how hard people try to prevent them.
4. a. In the long run people get the respect they deserve in this world.
 b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
5. a. The idea that teachers are unfair to students is nonsense.
 b. Most students don't realize the extent to which their grades are influenced by accidental happenings.
6. a. Without the right breaks one cannot be an effective leader.
 b. Capable people who fail to become leaders have not taken advantage of their opportunities.
7. a. No matter how hard you try some people just don't like you.
 b. People who can't get others to like them don't understand how to get along with others.
8. a. Heredity plays the major role in determining one's personality.
 b. It is one's experiences in life which determine what they're like.
9. a. I have often found that what is going to happen will happen.
 b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

10. ___a. In the case of the well-prepared student there is rarely if ever such a thing as an unfair test.
___b. Many times exam questions tend to be so unrelated to course work that studying is really useless.
11. ___a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
___b. Getting a good job depends mainly on being in the right place at the right time.
12. ___a. The average citizen can have influence in government decisions.
___b. This world is run by the few people in power, and there is not much the little guy can do about it.
13. ___a. When I make plans, I am almost certain 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.
14. ___a. There are certain people who are just no good.
___b. There is some good in everyone.
15. ___a. In my case getting what I want has little or nothing to do with luck.
___b. Many times we might just as well decide what to do by flipping a coin.
16. ___a. Who gets to be 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.
17. ___a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
___b. By taking an active part in political and social affairs the people can control world events.
18. ___a. Most people can't realize the extent to which their lives are controlled by accidental happenings.
___b. There really is no such thing as "luck."
19. ___a. One should always be willing to admit his mistakes.
___b. It is usually best to cover up one's mistakes.
20. ___a. It is hard to know whether or not a person really likes you.
___b. How many friends you have depends upon how nice a person you are.
21. ___a. In the long run the bad things that happen to us are balanced by the good ones.
___b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22. ___ a. With enough effort we can wipe out political corruption.
___ b. It is difficult for people to have much control over the things politicians do in office.
23. ___ a. Sometimes I can't understand how teachers arrive at the grades they give.
___ b. There is a direct connection between how hard I study and the grades I get.
24. ___ a. A good leader expects people to decide for themselves what they should do.
___ b. A good leader makes it clear to everybody what their jobs are.
25. ___ 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.
26. ___ a. People are lonely because they don't try to be friendly.
___ b. There's not much use in trying too hard to please people, if they like you, they like you.
27. ___ a. There is too much emphasis on athletics in high school.
___ b. Team sports are an excellent way to build character.
28. ___ a. What happens to me is my own doing.
___ b. Sometimes I feel that I don't have enough control over the direction my life is taking.
29. ___ a. Most of the time I can't understand why politicians behave the way they do.
___ b. In the long run the people are responsible for bad government on a national as well as on a local level.

**Appendix C:
Participant Data Form**

Please provide the following demographic information for data analysis purposes. Your responses will remain completely confidential. Thank you.

1. Gender: Female Male:
2. Age last birthday (in years): _____
3. Heritage: White African American Asian American American Indian
Hispanic Other (specify) _____
4. Marital Status: Single Married Separated Divorced Widowed
5. Highest educational level completed: _____
6. Primary impairment or disability: _____
Secondary/additional disabilities: _____
7. Can an observer tell by looking at you that you have a disability? Yes No
8. Cause of primary impairment or disability: Birth disorder Accident Illness
Other (specify) _____
9. Your age at the onset of primary impairment or disability: _____
10. Time which has passed since onset of your impairment or disability: _____
11. Your work experience in a paid position: Years _____ Months _____
Your work experience in a non-paid position: Years _____ Months _____
12. How many hours a week are you currently working in a paid position? _____
13. If you are not working but want to work, have you applied for a job in the past month?
Yes No Not Applicable
14. What kind of career or job are you interested in? _____
Are you currently working in that field? Yes No

**THANK YOU FOR YOUR COOPERATION
IN RESPONDING TO THIS QUESTIONNAIRE**

Appendix D:
Informed Consent and Instructions Form



San Bernardino Valley College

A College of the San Bernardino Community College District

Informed Consent

The study in which you are about to participate is designed to investigate the relation between acceptance of disability, work experience and locus of control. This study is being conducted by Erin Martz under the supervision of Dr. Joseph Turpin, professor of Rehabilitation Counseling at (909)-880-5680. This study has been approved by the Institutional Review Board of California State University, San Bernardino.

This study consists of two questionnaires. One questionnaire is on the acceptance of a disability. If you have a learning disability, please respond to the questions about physical disabilities by choosing the answer, "Reaction is Never Experienced." Please answer all of the items in the questionnaires and data sheet. The second questionnaire is about locus of control. The last sheet is for group data about test-takers and people's work-experience.

Please be assured that any information that you provide will be held in strict confidence by the researchers. Your response is also anonymous by placing your completed questionnaires in the blank envelope and then placing that envelope in the prestamped envelope addressed to the S.B.V.C.C.. At no time will your name be reported along with your responses. All data will be reported in group form only.

You are free to withdraw your data from anytime during this study without penalty. At the conclusion of this study, you can receive a report of the results by contacting Rebecca Warren Marlatt at the Services to Students with Disabilities office at (909)-888-6511, ext. 1163. She also can answer any questions that you may have about this study.

Please sign:

I acknowledge that I have been informed of, and understand, the nature and purpose of this study, and I freely consent to participate. I acknowledge that I am at least 18 years of age.

Participant's Signature

Date



Researcher's Signature

4/27/98

Date

**Appendix E:
Participants' Scores**

Data File Key

depress=depression

loccont=locus of control

intanger=internal anger

workknow no=0; parttime=1; fulltime=2

exthost=external hostility

acknowl=acknowledgment

adjust=adjustment

wantjob: no=0; yes=1 for want job now

wkinarea no=0; yes=1 work in career area

visible: disability is visible=1; invisible=0

pdwork:0=no work experience; 1=unpaid work less than 1 year; 2=unpaid work 1 year or more; 3=paid work less than 1 year; 4=paid work 1 year or greater; 5=paid and unpaid work totaling over 2 years; 6=five years or more of work experience.

typeinv 0=have physical visible disability; 1=learning disability; 2=physical invisible disability; 3=mental disability

gender 0=female 1=male

heritage 1=white 2=African-Amer. 3=Asian-Amer. 4=Amer.

Indian 5=Hispanic 6=other

marital 1=single 2=married 3=separated 4=divorced 5=widowed

educat 1=h.s. diploma 2=1-2 yrs. college 3=3+ yrs. coll.

4=Bachelors 5=higher degrees

causedis 1=congenital disability 2=accident 3=illness

4=other

career 1=counseling/teaching 2=medical/nursing

3=security/legal 4=food mgmt. 5=clerical or

business 6=construction/maintenance 7=communications

8=computers/electronics/auto 9=career interest unknown

10=other stated.

timepass= time since onset of disability.

	shock	anxiety	denial	depress	intanger	exthost	acknowl
1	8.00	16.00	12.00	12.00	11.00	7.00	24.00
2	9.00	10.00	9.00	12.00	11.00	8.00	17.00
3	20.00	14.00	16.00	19.00	18.00	11.00	17.00
4	14.00	14.00	17.00	11.00	10.00	10.00	24.00
5	21.00	13.00	13.00	17.00	18.00	11.00	23.00
6	11.00	8.00	21.00	11.00	9.00	17.00	22.00
7	10.00	10.00	13.00	11.00	18.00	8.00	19.00
8	7.00	8.00	7.00	8.00	8.00	7.00	19.00
9	7.00	8.00	7.00	8.00	8.00	7.00	19.00
10	17.00	9.00	8.00	26.00	28.00	28.00	10.00
11	18.00	11.00	11.00	17.00	13.00	11.00	28.00
12	10.00	13.00	11.00	12.00	13.00	11.00	17.00
13	16.00	20.00	11.00	18.00	14.00	16.00	21.00
14	11.00	9.00	7.00	12.00	15.00	13.00	22.00
15	9.00	8.00	7.00	9.00	8.00	7.00	12.00
16	27.00	16.00	11.00	25.00	20.00	19.00	24.00
17	18.00	22.00	9.00	15.00	21.00	18.00	26.00
18	9.00	13.00	13.00	12.00	8.00	15.00	22.00
19	9.00	8.00	7.00	11.00	8.00	10.00	16.00
20	13.00	13.00	10.00	11.00	9.00	10.00	11.00
21	9.00	12.00	7.00	9.00	9.00	7.00	13.00
22	7.00	10.00	16.00	11.00	14.00	9.00	19.00
23	28.00	11.00	11.00	24.00	24.00	24.00	17.00
24	10.00	14.00	9.00	13.00	16.00	12.00	22.00
25	11.00	18.00	7.00	17.00	14.00	14.00	24.00
26	10.00	6.00	15.00	9.00	9.00	13.00	18.00
27	18.00	12.00	21.00	19.00	17.00	17.00	18.00
28	15.00	8.00	9.00	16.00	22.00	7.00	21.00
29	16.00	11.00	16.00	12.00	12.00	14.00	28.00
30	13.00	16.00	17.00	20.00	15.00	16.00	25.00

	adjust	loccont	pdwork	worknow	wantjob	wkinarea	visible
1	24.00	11.00	4.00	1.00	1.00	1.00	.00
2	18.00	11.00	6.00	.00	.00	.00	.00
3	15.00	5.00	3.00	.00	1.00	.00	1.00
4	26.00	2.00	.00	.00	.00	.00	.00
5	20.00	11.00	6.00	.00	.00	.00	.00
6	25.00	9.00	4.00	.00	1.00	.00	.00
7	20.00	8.00	4.00	1.00	.00	.00	.00
8	14.00	4.00	.00	.00	.00	.00	.00
9	17.00	9.00	6.00	1.00	.00	1.00	.00
10	22.00	13.00	3.00	2.00	.00	1.00	.00
11	19.00	10.00	5.00	.00	.00	.00	.00
12	16.00	2.00	6.00	2.00	.00	.00	.00
13	22.00	7.00	4.00	.00	.00	.00	.00
14	27.00	4.00	6.00	.00	.00	.00	.00
15	19.00	12.00	6.00	.00	1.00	.00	1.00
16	21.00	9.00	.00	.00	.00	.00	.00
17	26.00	3.00	5.00	1.00	.00	1.00	.00
18	24.00	7.00	.00	.00	.00	.00	.00
19	7.00	6.00	5.00	.00	.00	.00	1.00
20	18.00	7.00	5.00	.00	.00	.00	1.00
21	15.00	11.00	5.00	2.00	1.00	1.00	.00
22	28.00	3.00	6.00	.00	.00	.00	.00
23	17.00	14.00	6.00	1.00	.00	.00	.00
24	21.00	9.00	5.00	.00	.00	.00	1.00
25	24.00	4.00	6.00	.00	.00	.00	.00
26	23.00	9.00	6.00	.00	1.00	.00	1.00
27	24.00	12.00	6.00	.00	.00	.00	1.00
28	19.00	4.00	.00	.00	1.00	.00	.00
29	31.00	9.00	5.00	.00	.00	.00	.00
30	27.00	7.00	6.00	1.00	.00	.00	.00

	typeinv	gender	age	heritage	marital	educat	causedis
1	2.00	.00	27.00	5.00	2.00	4.00	1.00
2	2.00	.00	43.00	1.00	3.00	2.00	1.00
3	.00	.00	21.00	3.00	1.00	1.00	1.00
4	2.00	.00	30.00	5.00	1.00	1.00	3.00
5	1.00	.00	50.00	1.00	5.00	2.00	1.00
6	3.00	1.00	30.00	5.00	1.00	1.00	1.00
7	3.00	.00	33.00	6.00	4.00	1.00	4.00
8	1.00	1.00	49.00	1.00	1.00	1.00	1.00
9	1.00	.00	36.00	1.00	1.00	2.00	1.00
10	3.00	.00	28.00	1.00	4.00	1.00	2.00
11	3.00	.00	34.00	5.00	4.00	1.00	1.00
12	1.00	.00	48.00	5.00	1.00	2.00	1.00
13	1.00	.00	25.00	1.00	1.00	1.00	1.00
14	2.00	1.00	40.00	1.00	2.00	2.00	4.00
15	.00	.00	48.00	1.00	1.00	2.00	1.00
16	2.00	.00	31.00	2.00	1.00	1.00	2.00
17	3.00	.00	35.00	1.00	4.00	1.00	4.00
18	2.00	.00	19.00	1.00	1.00	1.00	3.00
19	.00	.00	44.00	1.00	1.00	2.00	3.00
20	.00	.00	48.00	1.00	1.00	1.00	1.00
21	2.00	1.00	54.00	1.00	1.00	1.00	3.00
22	3.00	1.00	47.00	2.00	4.00	5.00	3.00
23	1.00	.00	41.00	1.00	1.00	1.00	.00
24	.00	.00	41.00	5.00	1.00	2.00	4.00
25	2.00	1.00	58.00	1.00	2.00	3.00	2.00
26	.00	1.00	40.00	1.00	1.00		2.00
27	.00	.00	32.00	6.00	2.00	1.00	1.00
28	1.00	1.00	51.00	1.00	1.00	2.00	1.00
29	3.00	1.00	31.00	1.00	1.00	1.00	3.00
30	3.00	1.00	40.00	1.00	3.00	1.00	4.00

	ageonset	timepass	career
1	25.00	1.50	2.00
2	35.00	3.00	5.00
3	.00	21.00	6.00
4	17.00	13.00	7.00
5	5.00	45.00	1.00
6	15.00	15.00	3.00
7	31.00	2.00	7.00
8			4.00
9			4.00
10	26.00	2.00	4.00
11	18.00	16.00	7.00
12			1.00
13	.00	25.00	1.00
14	17.00	23.00	1.00
15	13.00	35.00	4.00
16	14.00	17.00	4.00
17	.00	35.00	1.00
18	12.00	7.00	1.00
19	30.00	14.00	1.00
20	.00	48.00	4.00
21	.00	54.00	5.00
22	25.00	22.00	3.00
23	3.00	38.00	5.00
24	15.00	26.00	1.00
25	18.00	40.00	1.00
26	5.00	35.00	1.00
27	.00	32.00	6.00
28	.00	51.00	6.00
29	17.00	14.00	1.00
30	39.00	1.00	5.00

	shock	anxiety	denial	depress	intanger	extrost	acknowl
31	10.00	8.00	7.00	8.00	8.00	7.00	10.00
32	23.00	22.00	23.00	23.00	19.00	18.00	25.00
33	20.00	12.00	10.00	14.00	14.00	10.00	21.00
34	14.00	10.00	19.00	17.00	11.00	8.00	25.00
35	24.00	11.00	10.00	20.00	21.00	18.00	23.00
36	26.00	26.00	13.00	23.00	29.00	19.00	27.00
37	7.00	8.00	9.00	8.00	10.00	7.00	14.00
38	10.00	18.00	18.00	12.00	11.00	12.00	24.00
39	18.00	26.00	9.00	25.00	18.00	16.00	26.00
40	7.00	8.00	10.00	8.00	8.00	7.00	15.00
41	9.00	11.00	10.00	10.00	12.00	7.00	27.00
42	23.00	22.00	15.00	16.00	21.00	13.00	25.00
43	10.00	8.00	14.00	11.00	11.00	11.00	25.00
44	21.00	24.00	17.00	29.00	23.00	15.00	16.00
45	7.00	8.00	7.00	8.00	9.00	7.00	7.00
46	7.00	13.00	7.00	11.00	10.00	9.00	18.00
47	11.00	20.00	10.00	19.00	18.00	22.00	21.00
48	11.00	10.00	9.00	10.00	15.00	8.00	20.00
49	20.00	26.00	16.00	13.00	18.00	8.00	25.00
50	11.00	8.00	9.00	8.00	10.00	7.00	21.00
51	13.00	15.00	7.00	9.00	12.00	12.00	15.00
52	10.00	9.00	11.00	12.00	11.00	7.00	25.00
53	13.00	11.00	16.00	20.00	12.00	16.00	17.00
54	12.00	10.00	13.00	14.00	9.00	8.00	22.00
55	17.00	23.00	18.00	21.00	21.00	19.00	18.00
56	17.00	10.00	17.00	16.00	21.00	16.00	20.00
57	12.00	8.00	8.00	9.00	13.00	7.00	20.00
58	16.00	19.00	15.00	15.00	15.00	16.00	26.00
59	16.00	11.00	12.00	15.00	19.00	14.00	23.00
60	15.00	12.00	10.00	15.00	14.00	12.00	20.00

	adjust	loccont	pdwork	worknow	wantjob	wkinarea	visible
31	8.00	14.00	.00	.00	.00	.00	.00
32	24.00	11.00	.00	.00	1.00	.00	.00
33	22.00	15.00	3.00	1.00	.00	1.00	.00
34	29.00	15.00	.00	.00	.00	.00	.00
35	15.00	16.00	6.00	2.00	.00	.00	.00
36	25.00	8.00	6.00	.00	.00	1.00	.00
37	13.00	8.00	.00	.00	1.00	1.00	1.00
38	24.00	6.00	6.00	.00	.00	.00	.00
39	25.00	15.00	6.00	.00	.00	.00	.00
40	20.00	5.00	.00	.00	.00	1.00	.00
41	31.00	8.00	4.00	.00	.00	.00	1.00
42	26.00	11.00	6.00	1.00	.00	.00	.00
43	19.00	9.00	6.00	.00	.00	.00	.00
44	18.00	15.00	5.00	.00	.00	.00	1.00
45	8.00	6.00	3.00	1.00	.00	1.00	.00
46	21.00	6.00	6.00	.00	.00	.00	.00
47	28.00	13.00	6.00	.00	1.00	.00	.00
48	30.00	5.00	6.00	.00	1.00	.00	.00
49	22.00	7.00	6.00	.00	.00	.00	.00
50	25.00	8.00	4.00	1.00	.00	1.00	1.00
51	19.00	9.00	3.00	.00	.00	.00	1.00
52	20.00	5.00	6.00	.00	.00	.00	.00
53	15.00	13.00	6.00	.00	.00	.00	.00
54	31.00	4.00	6.00	1.00	.00	1.00	.00
55	18.00	13.00	2.00	.00	.00	1.00	.00
56	20.00	18.00	6.00	1.00	.00	.00	.00
57	15.00	9.00	5.00	.00	.00	.00	.00
58	26.00	9.00	.00	.00	.00	.00	.00
59	28.00	6.00	3.00	1.00	1.00	.00	.00
60	20.00	8.00	.00	.00	1.00	.00	1.00

	typeinv	gender	age	heritage	marital	educat	causedis
31	1.00	1.00	19.00	1.00	1.00	1.00	1.00
32	1.00	.00	22.00	5.00	1.00	2.00	1.00
33	1.00	.00	32.00	2.00	1.00	1.00	1.00
34	2.00	.00	38.00	2.00	1.00	4.00	3.00
35	1.00	.00	43.00	1.00	2.00	2.00	1.00
36	2.00	.00	30.00	5.00	1.00	1.00	1.00
37	.00	1.00	20.00	5.00	1.00	1.00	1.00
38	3.00	1.00	33.00	5.00	1.00	2.00	2.00
39	2.00	.00	37.00	1.00	1.00	1.00	2.00
40	1.00	.00	19.00	5.00	1.00	2.00	1.00
41	.00	.00	27.00	1.00	1.00	3.00	2.00
42	2.00	1.00	44.00	2.00	2.00	3.00	2.00
43	3.00	1.00	50.00	1.00	3.00	2.00	4.00
44	.00	1.00	31.00	5.00	1.00	1.00	1.00
45	2.00	.00	39.00	5.00	2.00	2.00	2.00
46	2.00	.00	6.00	1.00	2.00	1.00	4.00
47	2.00	.00	40.00	1.00	4.00	2.00	2.00
48	2.00	1.00	37.00	1.00	2.00	2.00	2.00
49	3.00	.00	28.00	1.00	1.00	1.00	3.00
50	1.00	.00	23.00	5.00	2.00	1.00	1.00
51	.00	1.00	45.00	1.00	4.00	1.00	1.00
52	1.00	1.00	24.00	1.00	1.00	1.00	1.00
53	3.00	.00	31.00	5.00	4.00	2.00	4.00
54	3.00	1.00	34.00	4.00	4.00	2.00	.00
55	3.00	1.00	40.00	2.00	1.00	1.00	1.00
56	1.00	.00	25.00	5.00	1.00	1.00	.00
57	1.00	.00	44.00	5.00	5.00	1.00	4.00
58	3.00	.00	49.00	4.00	4.00	2.00	3.00
59	1.00	1.00	20.00	1.00	1.00	1.00	1.00
60	.00	1.00	36.00	4.00	1.00	1.00	2.00

	ageonset	timepass	career
31	9.00	10.00	5.00
32	.00	22.00	1.00
33	.00	32.00	1.00
34	28.00	10.00	4.00
35	.00	43.00	1.00
36	.00	30.00	4.00
37	10.00	10.00	5.00
38	18.00	15.00	1.00
39	30.00	7.00	7.00
40	6.00	13.00	1.00
41	20.00	7.00	1.00
42	37.00	7.00	2.00
43	47.00	3.00	1.00
44	12.00	19.00	7.00
45	27.00	12.00	4.00
46	52.00	4.00	1.00
47	31.00	9.00	5.00
48	33.00	4.00	7.00
49	14.00	14.00	5.00
50	4.00	19.00	1.00
51	.00	45.00	4.00
52	.00	24.00	6.00
53	14.00	17.00	4.00
54	9.00	25.00	4.00
55	.00	40.00	7.00
56	7.00	18.00	1.00
57			6.00
58	28.00	21.00	1.00
59	.00	20.00	5.00
60	32.00	4.00	7.00

	shock	anxiety	denial	depress	intanger	exthost	acknowl
61	7.00	8.00	25.00	8.00	13.00	7.00	28.00
62	17.00	21.00	14.00	14.00	21.00	19.00	12.00
63	12.00	13.00	19.00	16.00	12.00	19.00	18.00
64	9.00	8.00	7.00	8.00	8.00	7.00	9.00
65	7.00	8.00	10.00	9.00	8.00	10.00	22.00
66	17.00	22.00	19.00	23.00	19.00	17.00	16.00
67	21.00	19.00	13.00	29.00	18.00	13.00	19.00
68	11.00	8.00	11.00	10.00	8.00	8.00	19.00
69	19.00	23.00	18.00	15.00	19.00	24.00	22.00
70	13.00	9.00	18.00	12.00	11.00	10.00	26.00
71	7.00	8.00	7.00	8.00	8.00	7.00	12.00
72	22.00	19.00	16.00	23.00	26.00	22.00	24.00
73	7.00	9.00	15.00	9.00	8.00	7.00	24.00
74	16.00	11.00	14.00	15.00	15.00	13.00	26.00
75	17.00	10.00	7.00	13.00	18.00	16.00	28.00
76	12.00	10.00	13.00	10.00	9.00	8.00	15.00
77	13.00	10.00	12.00	13.00	7.00	11.00	23.00
78	18.00	16.00	13.00	17.00	25.00	19.00	27.00
79	14.00	9.00	24.00	14.00	15.00	13.00	26.00
80	7.00	14.00	7.00	9.00	8.00	16.00	24.00
81	11.00	14.00	10.00	14.00	11.00	10.00	17.00
82	8.00	12.00	18.00	11.00	9.00	10.00	22.00
83	9.00	10.00	13.00	8.00	8.00	7.00	21.00
84	9.00	10.00	8.00	12.00	10.00	11.00	21.00
85	8.00	13.00	9.00	16.00	12.00	12.00	22.00
86	22.00	14.00	19.00	20.00	21.00	20.00	22.00
87	14.00	16.00	13.00	10.00	12.00	11.00	22.00
88	14.00	14.00	21.00	13.00	15.00	17.00	22.00

	adjust	loccont	pdwork	worknow	wantjob	wkinarea	visible
61	32.00	6.00	6.00	.00	.00	.00	.00
62	19.00	11.00	.00	.00	.00	.00	1.00
63	20.00	8.00	.00	.00	1.00	.00	.00
64	8.00	9.00	4.00	1.00	.00	.00	.00
65	26.00	8.00	6.00	.00	.00	.00	1.00
66	21.00	13.00	5.00	.00	.00	.00	1.00
67	18.00	6.00	6.00	.00	.00	1.00	.00
68	12.00	11.00	.00	.00	.00	.00	.00
69	24.00	13.00	4.00	.00	.00	.00	.00
70	20.00	6.00	3.00	1.00	.00	.00	.00
71	8.00	9.00	.00	.00	.00	.00	1.00
72	29.00	6.00	6.00	.00	.00	.00	.00
73	32.00	10.00	6.00	1.00	.00	1.00	.00
74	24.00	13.00	.00	.00	.00	.00	1.00
75	22.00	15.00	1.00	.00	.00	.00	1.00
76	20.00	10.00	4.00	1.00	1.00	.00	.00
77	19.00	10.00	.00	.00	.00	1.00	.00
78	30.00	12.00	4.00	1.00	.00	.00	.00
79	23.00	4.00	5.00	.00	.00	.00	.00
80	30.00	1.00	6.00	2.00	.00	1.00	.00
81	22.00	6.00	6.00	.00	.00	.00	.00
82	27.00	11.00	6.00	.00	1.00	.00	.00
83	23.00	5.00	6.00	.00	.00	1.00	.00
84	30.00	6.00	5.00	1.00	1.00	1.00	.00
85	26.00	8.00	.00	.00	.00	.00	.00
86	24.00	12.00	.00	.00	1.00	.00	1.00
87	24.00	8.00	4.00	1.00	.00	.00	.00
88	25.00	6.00	5.00	1.00	.00	.00	.00

	typeinv	gender	age	heritage	marital	educat	causedis
61	3.00	1.00	47.00	2.00	1.00	2.00	4.00
62	3.00	.00	74.00	5.00	1.00	1.00	2.00
63	2.00	.00	20.00	1.00	1.00	1.00	
64	1.00	1.00	23.00	2.00	1.00	1.00	4.00
65	.00	1.00	34.00	2.00	2.00	1.00	2.00
66	.00	1.00	59.00	5.00	3.00	1.00	2.00
67	3.00	.00	50.00	1.00	4.00	1.00	3.00
68	3.00	.00	40.00	5.00	2.00	1.00	1.00
69	3.00	.00	19.00	5.00	1.00	2.00	1.00
70	2.00	1.00	21.00	1.00	1.00	1.00	2.00
71	.00	1.00	38.00	5.00	1.00	2.00	2.00
72	1.00	1.00	28.00		1.00	1.00	1.00
73	2.00	.00	61.00	1.00	5.00	1.00	3.00
74	.00	1.00	36.00	5.00	2.00	1.00	2.00
75	.00	1.00	23.00	1.00	1.00	1.00	2.00
76	2.00	.00	21.00	1.00	1.00	1.00	1.00
77	3.00	1.00	49.00	1.00	4.00	1.00	.00
78	3.00	.00	30.00	2.00	3.00	2.00	4.00
79	2.00	1.00	55.00	2.00	1.00	2.00	3.00
80	2.00	.00	40.00	1.00	2.00	1.00	4.00
81	2.00	.00	47.00	1.00	4.00	1.00	1.00
82	2.00	1.00	40.00	2.00	1.00	2.00	3.00
83	1.00	.00	53.00	1.00	2.00	2.00	1.00
84	2.00	1.00	34.00	1.00	2.00	3.00	2.00
85	2.00	.00	60.00	1.00	4.00	2.00	2.00
86	1.00	.00	19.00	2.00	1.00	2.00	1.00
87	2.00	.00	52.00	1.00	3.00	2.00	4.00
88	1.00	1.00	20.00	1.00	1.00	2.00	1.00

	ageonset	timepass	career
61	29.00	18.00	5.00
62	20.00		6.00
63			6.00
64	6.00	17.00	5.00
65	31.00	3.00	1.00
66	55.00	4.00	6.00
67	40.00	10.00	7.00
68	9.00	31.00	1.00
69	.00	19.00	7.00
70	17.00	4.00	7.00
71	23.00	15.00	7.00
72	.00	28.00	1.00
73	17.00	44.00	1.00
74	25.00	11.00	1.00
75	16.00	7.00	1.00
76	.00	21.00	2.00
77	46.00	3.00	1.00
78	13.00	17.00	1.00
79	35.00	20.00	4.00
80	22.00	18.00	2.00
81	.00	47.00	5.00
82	31.00	9.00	2.00
83	.00	53.00	1.00
84	27.00	7.00	5.00
85	10.00	50.00	1.00
86	.00	19.00	4.00
87	42.00	10.00	4.00
88	.00	20.00	5.00

Appendix F:
Correlational Findings

Significant correlations that were found in this research project included:

1) Acknowledgment and:

Adjustment (.671, $p < .01$)

Visibility (-.259, $p < .05$)

Shock (.263, $p < .05$).

Anxiety (.246, $p < .05$).

Denial (.358, $p < .01$).

Internal anger (.211, $p < .05$).

2) Adjustment and:

Amount of Work Experience (.237, $p < .05$)

Anxiety (.230, $p < .05$).

Denial (.363, $p < .01$).

External hostility (.227, $p < .05$).

Sociopolitical locus of control (-.238, $p < .05$)

3) Locus of control and:

Shock (.386, $p < .01$).

Depression (.356, $p < .01$).

External hostility (.320, $p < .01$).

Internal anger (.298, $p < .01$).

4) Personal locus of control and:

Shock (.329, $p < .01$).

InterAnger (.280, $p < .01$).

External Hostility (.290, $p < .01$).

Depression (.377, $p < .01$).

Sociopolitical locus of control (.315, $p < .01$)

5) Sociopolitical locus of control and:

Shock (.235, $p < .05$).

External Hostility (.230, $p < .05$).

Depression (.269, $p < .05$).

Visibility (.259, $p < .05$).

6) Education and:

Shock (-.229, $p < .05$).

7) Working Now and:

Amount of Work Experience (.232, $p < .05$).

Working Now in Career Area (.392, $p < .01$).

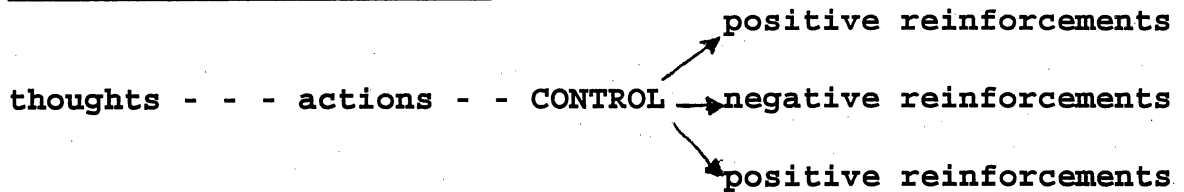
Visibility (-.279, $p < .05$).

8) Age of onset and:

Time passed from onset (-.683, $p < .01$).

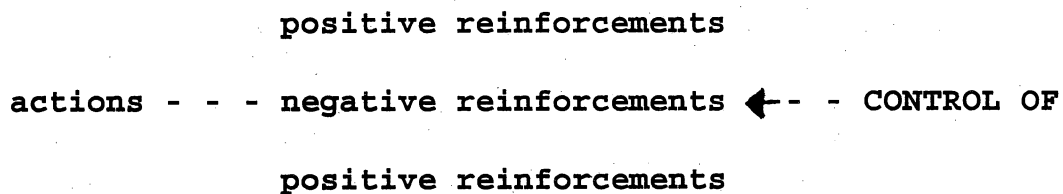
Appendix G:
Locus of Control Diagram

INTERNAL LOCUS OF CONTROL



[The individual controls whether the reinforcement occurs to him or her by his or her behavior.]

EXTERNAL LOCUS OF CONTROL



[The reinforcements from the environment follow one's actions, but the individual does not perceive a connection between his or her behavior and the reinforcement.]

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