1993

Primary and Secondary Control: A Study of the Two Process Theory, Its Context and Applications

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PRIMARY AND SECONDARY CONTROL: A STUDY OF THE TWO PROCESS THEORY, ITS CONTEXT AND APPLICATIONS

A THESIS SUBMITTED TO
THE FACULTY OF THE GRADUATE SCHOOL
IN CANDIDACY FOR THE DEGREE OF
MASTER OF ARTS

DEPARTMENT OF COUNSELING AND EDUCATIONAL PSYCHOLOGY

BY

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CHICAGO, ILLINOIS

MAY, 1993

NOTE ON PRONOUN USAGE

At the time of this writing, the use of masculine pronouns when referring to unspecified individuals has been discredited, but no alternative has been widely agreed upon. For the purposes of this thesis, plurals, passive voice or combined pronouns could be confusing. Therefore, the thesis employs an emerging convention found in some of the literature surveyed. Unspecified individuals will sometimes be male, sometimes female. There will be continuity within each example. In a given example or line of thought the unspecified individual will be referred to as he, while in another the individual will be referred to as she.

ACKNOWLEDGMENTS

I am indebted to Gloria Lewis who listened to my anxieties, helped me clarify my vision and told me I could do it. The enthusiasm and encouragement of my committee, Marilyn Susman and Carol Harding, was more than gratifying. I am astonished that John Weisz spent so much time and energy encouraging a voice over the telephone. I can't express my gratitude for the fact that he took me seriously and was always willing to help.

There is no adequate way to express my appreciation to my husband, Victor, who nudged me into graduate school and then lived to regret it as his life became disrupted. Besides all the ways he has relieved me of family responsibilities, given me support and practical assistance, as well as a few jump-starts, he has put many of his own dreams on hold in order for me to realize mine. He continues to be a valued and trusted traveling companion along the profound adventure of our relationship.

Thanks, also, to Jennifer and Jessica, our precious daughters. I am indebted to them for all the times they tiptoed in to watch me work, waiting for me to pause before they asked their questions or got their hug. This process has seemed very long to them and quite incomprehensible. They have looked forward eagerly to the time when Mommy would finish her thesis and "We'll all be free!" Well, this is it, girls. We're free!

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CHAPTER ONE

INTRODUCTION: THE IMPORTANCE OF CONTROL

"Life is a relentless pursuit for control" (Wong, 1992, p. 143). From our first days as infants, our development is linked to learning that our actions have consequences. We cry and an adult comes to care for us; we shake our bodies and a toy makes noise. Childhood, and particularly adolescence, becomes a push for more and more personal freedom from authority figures. In our adult lives we strive for power in our careers, personal relationships and social interactions. As we grow older maintaining control becomes more and more difficult, and yet, may contribute to prolonging our lives. "Across the life span, every significant developmental transition provides new challenges for perceived and actual control" (Rodin, 1990, p. 11).

Unless we have some perception of control over our own lives, whether that perception is accurate or not, we are reduced to the basic level of survival. DeCharms (1968) wrote that "man's primary motivational propensity is to be effective in producing changes in his environment. Man strives to be a causal agent. His nature commits him to this path and his very life depends on it" (p. 269).

Many of us spend much of our time in power struggles, living with a level of stress which eventually begins to erode our health. If we become sick or fall victim to crime or accident, we search for meaning as a way to repair the perception of loss of control. On another level, cultural and gender differences in attitudes toward control make understanding each other difficult. Nations plunge their citizens into wars over

power and control, and Wong (1992) states, "The theme of control in all its variations permeates every aspect of the real life drama" (p. 147).

In his book, *The Denial of Death*, Becker (1973) described the existential terror people feel living in a frighteningly uncertain world. He argued that we attempt to cope with that terror on a day-to-day basis by creating positive, life-affirming illusions. In other words, in instances where we find we cannot directly control our environment, we may still feel compelled to attempt some measure of control through our cognitions.

Rothbaum, Weisz and Snyder (1982) suggest that persons value control so highly, they very rarely abandon the quest for it. The authors point out that most early theories of perceived control, especially learned helplessness and locus of control theories, look only at what they call primary control, attempts to change the world so that it satisfies the self's needs. When attempts at primary control fail, the authors suggest that, rather than giving up, we may switch to a process they call secondary control. The inward behaviors of passivity, withdrawal and submissiveness, which other theorists believe reflect relinquished control, more often seem to these authors to be attempts to sustain a perception of control by adjusting our inner worlds in order to fit more comfortably into the outside world we have been unable to change.

Personal control is almost unique in being a concept which refers to the relationship between a person and his or her world (Syme, 1990). The concept of control is being studied by not only clinical, educational, social and industrial psychologists, but medical practitioners, philosophers, sociologists, theologians. etc. One result of this is that there has been a proliferation of concepts about control which include:

> locus of control beliefs, locus of causality, desired control, participatory control, shared control, primary and secondary control, contingency judgments, self-

> efficacy, mastery, competence, power motive, autonomy, freedom, responsibility, psychological reactance, learned helplessness, mindfulness and mindlessness, and the illusion of control. (Wong, 1992, p. 144)

At this point there does not appear to be one theory of control which can handle every aspect of this important concept. Despite this fact, however, there are compelling reasons to investigate perceived control. Recent research has shown that having control is not always, as previously thought, beneficial, and the perception that we have control may be more important than the actuality of having it. Rodin (1990) wrote that "judgments of personal control not only influence how people operate in various activities but also determine which activities and environments they choose to expose themselves to" (p. 10). In addition, it appears that individuals' preferences for control vary widely. "People who most fear losing control are those who make a special point of being in control all the time" (Viscott, 1976, p. 69). Control can be linked to both physical and emotional pathology. A strong desire for control coupled with low levels of competence and morality is also the surest way to produce leaders who invariably ruin everything under their control. Indeed, a wide variety of problems, such as mental disorders, marital breakdown, job stress, and low productivity can be attributed to power struggles and the politics of control.

At this point, it should be clear that control is not only a crucial subject of study, but also an extremely elusive one. In their book, *Child Psychopathology and the Quest for Control*, (1989) Rothbaum and Weisz suggest the following:

> Perhaps it is the pervasiveness of control that makes it so difficult to detect. Unlike "drives" that manifest themselves in brief bursts of energy, control motivation is a chronic condition. When not intensely directed toward specific instrumental ends, it is seen in such everyday behaviors as play, exploration and exercise. It is so much a part of our lives that we have difficulty stepping back and taking stock of it. The aphorism 'The fish are the last to discover the ocean' often applies to people's discovery of their desire for control. (p. 19)

Given our strong motivation for control, and how pervasive that motivation is, it seems important for us to understand as much about how we attempt to control our own lives as possible. Despite the fact that there have been a proliferation of theories from a number of disciplines attempting to explain various aspects of control, with no one emerging as an organizing theory, there are things we know now which can be used to design interventions for persons, children, employees, patients, the elderly, and even nations. Each of the various theories adds to our knowledge of control and coping, but none of them fully addresses the distinctions proposed in Rothbaum et al.'s (1982) theory of primary and secondary control. These authors' two process theory has been chosen as the subject of this investigation because it is one of the first control theories to focus not only on what the experimenter can see the subject do or not do, but also on the inner workings of the subject. The realization that individuals attempt control not only through behaviors but also through cognitive processes opens up a complex and fruitful area of study with enormous potential for application in the real world. Perhaps by combining the research done in various fields on this concept, conclusions can be drawn about when and how to use primary and secondary control strategies most adaptively.

The purpose of the present paper is to bring together what we have learned about primary and secondary control since 1982 when Rothbaum et al. first introduced these concepts. The thesis will address the following six questions: (1) What is the two process model and (2) how does it relate to other control theories such as locus of control and learned helplessness? These questions will be addressed in Chapter Two. (3) How do primary and secondary control processes change over the developmental stages of the life cycle? Chapter Three will discuss changes from infancy to old age. Questions (4) How does the two process model relate to physical health? and (5) Does

use of primary and secondary control strategies change in different religions and cultures? will be addressed in Chapter Four and (6) What are the implications for future application and research? will be explored in Chapter Five.

CHAPTER TWO

THE TWO PROCESS MODEL AND OTHER CONTROL THEORIES

Control is a little like love; most of us know it when we see or feel it, but we would be hard pressed to define it exactly. Researchers continue to wrestle with the task of finding a way of pinning down this intangible construct. Most psychology of control theories have been about behavior – can we make something happen? Miller (1979) stated that control is the ability (actual or perceived, and present or potential) to start, modify, or terminate stimuli. According to this definition, it would seem that control is something that can be given by another (e.g., the experimenter) and, therefore, something that can be taken away or limited (Piper & Langer, 1986).

Most other control theorists had similar definitions. Antonovsky (1979) proposed a distinction between "being in control over things" (the self is in control) and "things being under control" (i.e., others can be in control without harming one's feelings of control). Thompson (1981) wrote that control is the belief that one has at one's disposal a response that can influence the aversiveness of an event. White & Janson (1986) theorized that control is an ability to cause or influence intended outcomes by differential responding and results in a sense of effectiveness desired by the individual person. Wallston, Wallston, Smith & Dobbins (1987) suggest that perceived control is the belief that one can determine one's own internal states and behavior, influence one's environment, and/or bring about desired outcomes. This chapter will explain the two process model, state how its authors define control, and

compare and contrast it with other leading theories of control psychology.

The Two Process Model

For the purposes of this thesis, control is defined as causing an intended event. The essential difference between this definition, developed by Rothbaum et al. (1982), and those of other control theorists is that an intended event may include influencing external realities or influencing internal psychological states to affect the impact of external realities on the self. According to the two process model, there are two broad paths by which individuals attempt to pursue control. Rothbaum et al. suggest that, generally, individuals attempt to alter objective realities in the world in order to bring them into line with their wishes. This path is called primary control as it fits the more traditional definition of control. If the individual is unsuccessful at primary control, he may become withdrawn and passive. Learned helplessness and locus of control theorists would, at this point, perceive that the individual had relinquished control. Rothbaum and his colleagues, however, believe that individuals only rarely relinquish control. Instead, the authors suggest that the individual will usually attempt to accommodate to objective conditions by altering himself in order to effect a satisfying alignment with existing realities. The two processes are outlined in Table 1.

TABLE 1

PRIMARY AND SECONDARY CONTROL: AN OVERVIEW

(Adapted from Weisz, Rothbaum & Blackburn, 1984)

	Primary Control	**Secondary Control**
Overall Goal	enhance reward or reduce punishment	enhance reward or reduce punishment
Means to Goal	modify objective conditions to fit self	modify self to fit objective conditions
General Strategy	influence objective conditions	accommodate to objective conditions in order to influence their impact on self
Typical Targets	people, things, events, symptoms, problems	one's own expectations, ideas, wishes, perceptions, goals

Rothbaum et al. originally proposed four types of secondary control based on various patterns of causal attributions that people show in their reasoning about control: predictive, illusory, vicarious and interpretive. Each secondary control type also has a complementary form of primary control. Instead of a concentration on using cognitions to change the self, the primary control strategy, like traditional views of control, focuses on changing the environment. The difference between primary and secondary control strategies is on where the subject places the emphasis. Descriptions of primary and secondary control processes are included in Table 2.

TABLE 2

TYPES OF PRIMARY AND SECONDARY CONTROL

(Adapted from Blackburn, 1984)

	Primary	**Secondary**
Predictive Control *attempts to...*	predict events and conditions to select strategies most likely to make objective conditions fit one's own needs, wishes, goals	predict events and conditions to control their impact on self, especially future disappointment
Illusory Control *attempts to...*	influence or capitalize on chance to increase the likelihood that fate will fit one's needs, wishes, goals	get in synchrony with chance to enhance comfort with and acceptance of fate
Vicarious Control *attempts to...*	emulate the behavior, values of powerful persons groups or institutions to influence objective conditions as they do	associate or closely align with other persons, groups or institutions to share psychologically in the control they exert
Interpretive Control *attempts to...*	understand or construe objective conditions to master them (e.g. understand a problem to solve it)	understand or construe objective conditions so as to find meaning or purpose
Selective Attention *attempts to...*	focus attention on specific elements of a problem to solve it	focus attention away from a problem to avoid the unpleasant thoughts and feelings associated with it

Predictive primary control refers to attempts to predict events so as to succeed at them. An example of predictive primary control would be attempting to predict what questions an interviewer might ask in a job interview so as to be able to prepare satisfactory answers before the meeting thereby enhancing one's attractiveness as a job candidate. Predictive secondary control is primarily used to avert disappointment. If an individual can predict an aversive event, she can adjust her expectations and, therefore, experience less discrepancy and loss between the expected and the actual. On the other hand, if the individual fails after expecting success, she suffers a double defeat; not only has she failed to perform the task, but she has failed as a predictor as well. Predicting that one will not be the candidate hired for the job position so as not to be disappointed is an example of predictive secondary control.

Attempts to align the self with chance, luck or fate are instances of illusory control. An example of illusory primary control would be realizing that it is chance/fate which determines who wins a raffle and trying to influence your chances by buying several tickets. An example of illusory secondary control is kissing the tickets before you deposit them in the raffle box in hopes that you can seduce good luck. Paradoxically, despite the fact that a person may admit that he knows that luck and chance are entirely non contingent, he may still persist in the belief that he is lucky by nature or that he can court luck with effort, superstitious behavior or rituals (Weisz, 1986b).

Similarly, attempts to align the self with powerful others, or vicarious control, involve the illusion that one can gain control by identifying with others who possess characteristics such as dominance, expertise, competence and power (Rothbaum et al.). By associating with and submitting to authority figures, the Lord, or the Chicago Cubs, the individual hopes to attain vicarious control. An example of vicarious

primary control would be imitating a successful athlete in hopes of being able to hit, run or throw as well as he. Deriving a sense of control from attending the games of, or wearing the colors or logo of, winning teams demonstrate vicarious secondary control. Beliefs in supernatural powers, astrologers and mystics combine attempts to align the self with both chance (illusory control) and powerful others (vicarious control).

All of the preceding secondary control processes; predictive, illusory and vicarious; are involved in interpretive control. If an individual can understand the meaning of an event, he can more easily accept it, and by accepting it, he perceives himself to be in control of it and somewhat protected from it in the future. An example of interpretive primary control is trying to understand why you were burglarized so that you can minimize the consequences of and possible future instances of victimization. Here, a person may try to determine if she was at fault in any way by leaving a window unlocked or newspapers in the front yard. An example of interpretive secondary control would be accepting the fact that you have been traumatized and finding a "purpose" in it, such as reconsidering your attachment to material things.

Blackburn (1984) introduced a fifth type of secondary control, selective attention, in which the person controls unpleasant thoughts and feelings by focusing his attention away from a problem. In primary selective attention, substance abusers who are members of twelve-step groups focus their attempts to stay sober "one day at a time", "one hour at a time" or even "one minute at a time" if necessary. While the abuser is still using, however, she may focus her thoughts on anything but the problems her substance use is creating in her life in order to avoid realizing she has a problem. Besides selective attention, there are still more secondary control processes

which have not been exposed as such at present (Weisz, personal correspondence). Some of these will be discussed in Chapters Four and Five.

It is obvious that we cannot possibly change everything in our lives that we might wish to. There will always be things we cannot alter and which we will have to accept. Individuals are frequently confronted with the choice of either persisting at the impossible or accepting a situation as it is. Choice will inevitably involve both positive and negative consequences either way. When an individual relinquishes control, as opposed to attempting primary or secondary control, he simply gives up. Not only does he abandon the attempt to change his physical circumstances, he also makes no attempt to fit into the circumstances. Before the two process model, theorists believed that individuals frequently relinquished control. Rothbaum et al. propose that individuals only rarely give up completely. Behind the inward, passive behaviors associated with relinquished control are usually secondary control cognitions.

Primary and secondary control processes frequently intertwine, and finding an optimal balance between them appears to be more adaptive than a reliance on either. Whether a person is using primary or secondary control strategies or relinquishing control depends on the person's reasons or goals for his behavior. This means that establishing reliable and valid classification presents particular difficulty because depending on direct observations or reports of behavior will not be sufficient (Weisz, 1990). Despite the fact that the above model presently lacks sufficient empirical support, it offers an alternative to models which do not discuss control in uncontrollable situations. Having discussed the two process model, other similar perspectives by a wide range of psychological theorists will now be compared and contrasted with it.

In his 1984 dissertation on primary and secondary control processes as they apply to Type A coronary-prone behavior, Blackburn described the following similar approaches:

> Hartmann (1958) used the term alloplastic to refer to human action that adapts the environment to human functions and autoplastic to refer to secondary adaptations by the individual to the environments thus created. He stated that a mix of alloplastic and autoplastic actions was most adaptive. Thibaut and Kelly (1959) argued that in cases where external control is exercised over the individual by other persons or agencies, "the adaptive solution would seem to involve a recognition of external control and an acceptance of its indocility to his efforts: (p. 85). These authors went on to suggest that persons are especially sensitive to outcomes that fall within their range of control, thus enabling maximal recognition of potential control over the environment. (pp. 16-17)

Mindfulness

Previous to the development of the two process model, little attention had been paid to the importance of internal psychological realities in control strategies. Recently we have realized that the subject's internal processes, difficult as they might be to assess, are highly significant in any definition of control. Piper & Langer (1986) explained that, according to the mindfulness interpretation, control exists in a mutually defining relationship between the individual and the environment. It is the person's internal processes which anchor the relationship, and, therefore, control is less likely to be limited by external events or other persons. Langer (1989) states that when we perform daily activities in a repetitive, routinized manner, (i.e., arriving home without consciously remembering most of the drive), when we are being passively dependent or when we attribute all our troubles to a single cause (premature cognitive commitment), we are operating mindlessly. In the mindless state, we are vulnerable to making mistakes and less able to react swiftly, adaptively or creatively to changes in our environment. We are less aware of alternatives, and, therefore, less in control than we could be.

Mindfulness, on the other hand, is a state of alert awareness which renders us better able to react to and to appreciate the context in which we find ourselves. Langer believes that our cognitive capacity is not fixed but elastic, capable of growth. The ability to respond to incoming information is increased to the extent that one is mindful. From the perspective of the actor, giving up behavioral control may actually be perceived as exercising and possessing control. From this vantage point, the individual may mindfully examine various responses to determine which will most successfully reduce arousal. Such an understanding is not possible within the behavioral control model.

Learned Helplessness

When individuals learn that their voluntary behavioral responses do not affect objective reality – in other words, when they cannot exert primary control – they usually decrease the frequency of those responses. Seligman named this situation learned helplessness (Abramson, Seligman & Teasdale, 1978; Seligman, 1975). Although the contingency between the individual's actions and the outcome of an event is seen as the most salient feature of this theory, it still becomes a conceptual link between perceived control and the motivation to initiate voluntary action as a means of exercising control (Blackburn, 1984). Inward behaviors are seen, at least in part, as a motivational deficit (Seligman, 1975). In the two process model, the situation determines which form of control will be most efficacious. In situations that are uncontrollable, secondary control will be more adaptive than primary control or relinquished control.

The reformulated learned helplessness theory suggests that when individuals are faced with uncontrollable, aversive events, they ask themselves why. Those who make

internal, stable and global attributions for failure suffer chronic and general feelings of helplessness with accompanying low self-esteem. Causal attributions have been made to limited ability, chance and powerful others.

The two process model also predicts that these individuals will experience depression in situations of failure. However, their depression may not be as severe or long-lasting if they are able to use secondary control to mitigate their loss. Thus, some individuals who make internal, stable, and global attributions for failure may still (a) find meaning in the event, (b) derive a sense of control from having predicted the failure, (c) associate themselves with luck or (d) associate themselves with powerful others.

Peterson & Seligman (1984) in a study of causal factors for depression stated that "there are cognitive factors not included in helplessness theory that determine responses to uncontrollable bad events including...an individual's beliefs about the consequences of uncontrollable events" (p. 111). Thus, helplessness theorists have noted the importance of secondary control.

Locus of Control

Another theory which associates perceived uncontrollability with passive, withdrawn behaviors comes from locus of control studies. In this formulation, internals are individuals who believe that they primarily control the occurrence of positive and negative reinforcements in their lives. Externals, on the other hand, believe that reinforcing events are due to luck, chance or powerful others and are, in general, more likely to manifest depressive symptoms and inward behaviors. This difference leads internals and externals to make systematically different causal attributions. Externals do not necessarily perceive themselves as powerless, however.

Cherulink & Citrin (1974) concluded that externals simply pursue power in a different way. Aligning themselves with luck or chance (illusory control) or powerful others (vicarious control) would seem to be likely alternate ways for externals to avoid feeling powerless.

Rothbaum et al. (1982) state that some of the most compelling behavioral evidence of striving for interpretive control may come from the external's tendency to alter individual desires and values so that they fit more closely the probable outcome of a situation. Kenney (1987) seems to agree with that possibility when he states the following:

> a. externals more often express a preference for chance tasks compared to internals (DuCette & Wolk, 1973; Kahle, 1980); b. externals perceive failure at chance tasks as a loss of control; c. persons making external attributions at times seem to evidence better adjustment (DesPeres, 1976; Felton & Kahana, 1974; Frankl, 1963). Thus, it seems plausible to consider that externals may view association with chance events as an alternative form of control and that the use of this form of control may lead to better adjustment in certain situations. (p. 30)

This theory also has its limitations. Rotter's locus of control scale consists of a number of control-related beliefs rather than the single dimension he had originally proposed. The scale may also be more valid for white middle-class subjects than for minority or lower socioeconomic class subjects (Gurin, Gurin, Lao, & Beattie, 1969; Phares, 1976; see also Strickland, 1978). Further, the internal locus of control items assess both effort (controllable) as well as ability (uncontrollable) which confounds locus and controllability (Weiner, 1986).

Both helplessness and locus of control models define control as the ability to respond in a way that will bring about a change in the environment. If only the behaviors which an experimenter can see are important, these theorists must conclude that when a subject exhibits passivity or withdrawal he must have passed control to external sources (locus of control) or relinquished control (helplessness). What these

theories do not address is the powerful motivation individuals have to maintain control. Rothbaum et al. (1982) state that the "motivation to feel 'in control' may be expressed not only in behavior that is blatantly controlling but also, subtly, in behavior that is not" (p. 7). Furthermore, the authors go on to suggest that inward behaviors (submissiveness, withdrawal, passivity) are often associated with secondary control rather than relinquished control. Rothbaum et al. suggest that the reason secondary control has not been noted by these authors is that there have been few attempts to measure it. Kenney (1987) found two studies (Cherulink & Citrin, 1974; Peterson & Seligman, 1984) which seem to indicate that locus of control and helplessness theorists are beginning to address secondary control as an important factor.

Stress and Coping Paradigm

The concept of control is often used in a manner similar to the concept of coping (Blackburn, 1985; Langer, 1983; Lazarus, 1966; Lazarus & Folkman, 1984). Lazarus and his associates do not refer to coping as an outcome, as in popular usage, but as a process of "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus & Folkman, 1984, p. 141). These authors believe that individuals appraise personal control in the context of a dynamic relationship between the person and her environment which is constantly changing as the person and the environment act on each other (Folkman, 1984). Lazarus believed that in appraisal individuals evaluate events according to how salient they are to the individual's well being. This cognitive process is not necessarily "conscious, verbal, deliberate, or rational" (Fiske & Taylor, 1991) and may change several times during a stressful encounter.

According to this paradigm individuals determine the meaning of an event through two types of cognitive appraisal. Primary appraisal involves a judgment regarding how relevant the situation or event is to the individual. Primary appraisals are mainly action-oriented and emotionally primitive as the individual reacts to loss, threat, challenge or a combination of the above. An event which affects an individual's commitments to values, ideals or goals will be evaluated as more significant to that person's well being and, therefore, more stressful. In fact, the more deeply held the commitments involved in a situation the more important it may be for the individual to perceive himself in control over its outcome (Folkman, 1984). Generalized beliefs about control such as internal or external locus of control influence primary appraisal. Folkman (1984) makes a distinction between generalized control beliefs and control as coping by stating the following:

> Generalized beliefs about control and control appraisals are cognitive factors that influence the appraisal of threat or challenge in a particular stressful encounter; control as a coping process refers to cognitive and/or behavioral efforts to exercise or seek control in that same encounter (see also Wong & Sproule, 1983). (p. 844)

Secondary appraisal involves decisions and emotions about options, resources and abilities for responding to the event – in other words, how to cope with the situation. The individual goes through a complex, dynamic and multifaceted assessment of her psychological, physical, social and material resources for handling a particular situation (Folkman, 1984). The appraisal attempts to answer questions such as the following: How much of the situation can the individual control? What is it he is exercising control over? How might an appraisal of coping change with new information?

Lazarus then divided coping into two types: problem-focused and emotion-focused. Problem-focused coping is similar to primary control in that it is an attempt

to change the person-environment situation through problem-solving, decision making or direct action. Emotion-focused coping, like secondary control, relates to the regulation of distressing emotion. Individuals usually employ both forms of coping in varying proportions in stressful events, but Folkman (1984) suggests that the effectiveness of problem-focused behavior is dependent on the success of emotion-focused strategies. "Otherwise, heightened emotions will interfere with the cognitive activity necessary for problem-focused coping" (p. 845). The examples Folkman gives of emotion-focused coping sound very much like secondary control strategies: (a) devaluing the stakes that are at risk in an encounter, (b) focusing on the positive aspects of negative outcomes, and (c) engaging in positive comparisons. In discussing secondary control, she calls it "a form of emotion-focused coping that enhances perceptions of control in ostensibly uncontrollable situations" (p. 844) and refers to it as "defensive reappraisal."

In a comparison of the two process model to that of Lazarus and Folkman, Kenney (1987) wrote the following:

> ...Lazarus & Folkman attempted to separate appraisal from coping (control). Within the two-process model, it seems plausible that the meaning one derives from a situation (interpretive control) and what one predicts to happen in a situation (predictive control) may be part of an appraisal process. For example, if an individual predicts that he will fail an exam and accepts this by saying "everyone does poorly on exams once in awhile, I'll do better next time," this would seem to be an integral part of the control/coping process. In this example, the individual would seem to be decreasing an appraisal of loss or threat and increasing the appraisal of the situation as benign. Viewing appraisal as a form of control/coping may serve to highlight its importance in dealing with the environment and oneself. (p. 15)

Assimilation and Accommodation.

Rothbaum et al. (1982) have noted the similarity between primary and secondary control and the Piagetian concepts of assimilation and accommodation. Assimilation involves the individual imposing his existing schema on new situations or ideas in

order to fit his needs. He attempts to change outside reality by forcing it into his preconceived notions, just as in primary control the individual attempts to change outside reality with direct action. Accommodation involves modifying one's existing schema to incorporate new knowledge thereby bringing oneself into line with a new reality or idea. Both accommodation and secondary control usually involve change within the individual. Accommodation involves changing the individual's schema while secondary control involves changing the individual's desires.

There appear to be other similarities between the two process model and Piaget's process of adaptation through accommodation, assimilation, and equilibration (the biological and psychological balance the organism continually strives for). Both theories stress that their two processes always work together in complementary fashion. In fact, a reliance on one process over the other can be indicative of pathological functioning (Piaget, 1983; Rosen, 1985; Rothbaum et al., 1982). The primary difference between the two models may be that the two process model deals with control while the Piagetian model deals with schema. Since these are different constructs, there may not always be a high correlation between the occurrence of each type of control and each type of schema (Kenney, 1987).

Kenney (1987) contrasts Piaget's and Rothbaum et al.'s approaches this way:

> This difference becomes apparent when one considers how accommodation or assimilation may be at work in situations of primary or secondary control. For example, when a person cuts in front of you on the highway, you may deal with this using primary control by honking your horn and trying to get him to change his behavior. This may involve using your existing assimilative schema by thinking of the driver as similar to other rude and inconsiderate drivers. Also, you may notice an out-of-state license plate and use an accommodative schema by changing your view of him versus other rude and inconsiderate drivers. For instance, you may think, "This person is not only rude and inconsiderate, he also doesn't know where he is going." So in this situation, the individual used primary control but used both assimilation and accommodation. In a similar situation, someone may cut in front of you and you may use secondary control by thinking, "Well, sometimes I'm in a hurry, too." If this is a new way of thinking about this situation, accommodation has occurred. If you are in the

> habit of accepting persons occasionally cutting in front of you on the highway, the above process may be assimilative. As seen in the above example, then, one's method of control can be accommodative or assimilative or both. Conceptually, one's method of control does not necessitate the change of knowledge structure (schema) or the maintenance of knowledge structure. (pp. 22-23)

Summary

Control can be conceived of as an appraisal process and as a coping process. As such, the two process model is quite similar to Lazarus and Folkman's (1984) view of the appraisal and coping process. However, primary, secondary and relinquished control differ from these authors' concepts of emotion-focused and problem-focused coping in that emotion-focused coping incorporates aspects of both primary and secondary control (Kenney, 1987).

The present view of control is different from notions of control in learned helplessness theory and locus of control theory. These theories typically recognize primary control as the only means of avoiding perceptions of uncontrollability. They see passive, withdrawn behaviors as signs of relinquished control whereas Rothbaum et al. believe that the motivation for control is so strong that the occurrence of relinquished control is very rare. Instead, individuals will attempt to maintain a perception of control by switching to secondary control processes. How primary and secondary control processes develop over an individual's life span will be discussed in the next chapter.

CHAPTER THREE
THE DEVELOPMENT OF PRIMARY AND SECONDARY CONTROL PROCESSES OVER THE LIFE SPAN

For infants, loud cries usually produce an adult to care for their needs. Adults have the ability and the physical and intellectual resources to provide most things for themselves. In old age, however, as our abilities decline and our resources wane, we may again need an adult to take care of us, but this time we must use a call button to summon her.

There is growing evidence that the structure of control-related beliefs changes over the life cycle. Weisz (1983) has argued that in order to judge the amount and type of control we can exert in a situation, we must accurately gauge the degree to which the target outcome can be influenced by variations in people's behavior (a contingency judgment), we must correctly assess our level of competence to produce the behavioral variations on which the target outcome is contingent (a competence judgment), and we must combine the contingency and competence judgments in a logical manner. Our ability to do those complex calculations is affected by our developmental stage. Before exploring how perceived control in general, and primary and secondary control in particular, change over the life span, a brief discussion of contingency and competence is appropriate.

Contingency

During a storm, preschool children often sing, "Rain, rain, go away; come again some other day." If the rain actually stops, they will be convinced it was because they

sang. Sometimes the environment appears to give us evidence of our ability to cause events which are, in fact, not in our control. Several authors have stated that an illusion of control may be characteristic of much adaptive human functioning (Taylor & Brown, 1988). Many times there simply is not enough information to assess accurately whether or not there is contingency. A child's illusion of control would involve the erroneous belief that she could produce a positive outcome when no such contingency existed. This would seem to be the opposite of Seligman's notion of learned helplessness, the erroneous belief that one has no control to affect the outcome of a given event when contingency does in fact exist between response and outcome (Langer, 1983).

Competence

Children may also need to be at a certain point developmentally before they can make accurate assessments of their own competency to produce the outcomes they want. Weisz (1983) submits that by middle to late childhood, children may have developed cognitively so that there are necessary but not sufficient conditions for veridical control judgments. Bandura's (1981) theoretical account of the developmental course of self-efficacy may be helpful in understanding this concept. Bandura states that infants develop a "sense of personal agency" as they realize their ability to produce effects on the physical and social world. As they get older, children use their peer relations and rate of success with academic and cognitive tasks in school to hone their assessments of their competence. Adults have ample opportunities to gauge their competence in their marital and family relationships and careers and, as their assessments become more realistic, may become painfully aware of the limitations of their abilities. Because of social stereotypes, among other reasons, the elderly frequently underestimate their competence in many important areas.

Our ability to judge the amount of control we have in situations has important implications for us. There will be circumstances in our lives which are undesirable but unchangeable. Continuing to use primary control strategies in those circumstances will most likely produce frustration and helplessness. On the other hand, our ability to judge an outcome as noncontingent may help us to abandon the use of primary control in favor of secondary control. Not only will we discontinue expending effort uselessly, we may find meaning or purpose in those unalterable circumstances which may be helpful for ourselves and others.

Infancy

Unfortunately, infants cannot tell us whether or not they ever shift into using secondary control when their primary control attempts fail, and there is no way to ascertain this by observation. There has been some work on the development of control during the first twelve months, however. Gunnar (1982), in a literature review, found evidence that indicated that children 1-4 months old begin and end interactions with significant adults, thereby exercising a degree of control. Also, 2-4-month-olds showed distress when adult caregivers did not respond when the baby looked directly at or away from them. Infants appear to be able to learn to produce behavior which has been associated with certain pleasurable outcomes under careful experimental conditions. For instance, infants as young as 2 months of age who are exposed to response-contingent reinforcement (e.g., movements of a mobile triggered by the infant's head movements) appear to become functionally aware of the contingency (Suomi, 1981). This seems to support Watson's (1971) contention that contingency analysis begins at the age of about 8-to-12- weeks.

At 4 to 8 months, Gunnar found that the infant becomes "an active agent in producing stimulation" (p. 4). When an action brings about some interesting outcome, the infant repeats it. His awareness of limits on his ability to control appears to begin at 8 to 12 months. He begins to be afraid of strangers as he realizes that people are not as easily controlled as physical objects. By the age of 12 months, the distress the infant shows at being presented with a potentially frightening toy can be reduced by giving her the opportunity to exert control over it.

Early Childhood Through Adolescence

Much more is known about children's control-related beliefs once they become verbal. Weisz (1983, 1986a & b, and 1990) and his colleagues have conducted both laboratory and field studies on the development of children's contingency reasoning by exposing them to outcomes which are either contingent (skill tasks) or noncontingent (games of chance). When asked to explain what caused their own or another person's outcomes, most of the children (5-13-year-olds) had some awareness of what the term "control" meant, for the most part using the term in three ways: Control over inanimate objects, interpersonal control and self-control.

Children below age 7 generally failed to distinguish between contingent outcomes and chance outcomes. For the most part they attributed the outcomes to contingent events (i.e., "I didn't try hard enough") (Weisz, 1980, 1981; Weisz, Yeates, Robertson & Beckham, 1982). On the other hand, late-elementary-school or older children were usually able to recognize the chance outcomes as being noncontingent. Weisz (1983) concluded that the ability to distinguish between contingent and noncontingent events began to emerge at around the sixth year and that it was rather firmly in place by adolescence.

Compas, Banez, Malcarne, & Worsham (1991) suggested that developmental changes in control-related beliefs depend on the characteristics of tasks and the types of cognitive skills necessary to understand those tasks. They state that children move from overestimating contingency at age 6 to more realistic assessments by about age 11. During this time, they also begin to recognize the possibility of an uncontrollable internal cause, and they show a decrease in attributions to external factors such as luck and powerful others. However, mean levels of contingency, competence, and control beliefs do not tend to change substantially with age.

At the same time children believe that they can stop the rain by singing and that the moon follows them around, they also believe they can drive a car and build a working space ship. Fortunately for parents, it appears that levels of perceived competence may grow increasingly more realistic with development. Weisz reported in two studies (Weisz, 1977; Weisz & Achenbach, 1975) that, when he asked children to rate how competent they were compared to others in their school at a concept-formation task, their self-ratings declined significantly with increasing mental age. IQ made no difference (Weisz, 1983). These findings are similar to several other studies (Nicholls, 1978; Freedman, 1975; Phillips, 1963).

Further evidence was found by Stipek & Weisz (1981) who compared self-ratings with teacher classifications by increasing grade level. She found that second and third graders' self-ratings were significantly related to where their teachers had placed them in class rankings (i.e., top versus bottom third of the class). By contrast kindergartners and first graders placed themselves considerably high regardless of whether their teachers had rated them within the upper or lower third.

Schulz, Heckhausen, and Locher (1991) provide us with a useful summary of the development of primary control, contingency and competence in childhood:

> Early development is characterized by an increasing ability to exert primary control over the environment. One of the hallmarks of biological and social development in early childhood is the increasing ability to produce behavior-event contingencies. The action-outcome experiences of the child provide the basis for the development of self-competence, including generalized expectancies of control and perceptions of self-efficacy. As development progresses, children attain the capacity to differentiate competence into ability and effort, and develop domain-specific expectations for control – that is, individuals begin to select the domains of their life in which they will invest their highest expectancies for control, e.g., sports, career, family (Heckhausen & Schulz, 1990). (p. 181)

If judgments of contingency and competence are affected by development, it would seem logical that secondary control may be as well. To test this hypothesis, Brotman-Band and Weisz (1988) asked 6-, 9-, and 12-year-olds to describe stressful episodes they had experienced and their behavior and goals during those episodes. Their responses were coded for primary, secondary or relinquished control. Lazarus and Folkman's (1984) Ways of Coping Checklist was also used. The authors found that, as with adults, there was a very low frequency of relinquished control. Reports of secondary control coping (alone or in combination with primary control coping) increased with age, whereas reports involving only the use of primary coping declined with age.

In another study, Brotman-Band (1989) interviewed 8-year-old and 14-year-old children with juvenile diabetes about the particular stresses they experienced. These children could not change the fact of having diabetes but were required to perform several primary control behaviors to deal with it such as giving themselves insulin injections. Again, relinquished control was rare with the 8-year-olds relying on primary control goals significantly more than the older group. An interesting finding was that scores reflecting greater reliance on secondary control goals were associated with poorer physician's ratings of medical adjustment. Evidently, broad use of

secondary control can be analogous to declines in appropriate primary control – such as precise adherence to an appropriate diet and the prescribed medical regimen.

In an exploratory study, Cameron (1984) administered her Children's Primary-Secondary Control Scale to 95 fifth and sixth graders. She found that a strong emphasis on primary control may be associated with undesirable behaviors at home or in school. Those few children who relinquished control also showed poorer school achievement and more behavior problems than those who used more secondary control strategies. Cameron concluded that secondary control strategies may be more adaptive for children in school and home settings than primary or relinquished control. Weisz (1986b) speculated that children are expected to comply with rules and give in to authority in school and home settings. Therefore, actively pursuing primary control may take the form of disobeying or defiance, which would generally be maladaptive. Yielding because the child has given up could lead to feelings of helplessness, which would also be maladaptive and likely jeopardize achievement. If the child can retain a sense of control by using secondary control strategies in those situations where she must comply, there may be fewer negative correlates.

Weisz (1990) has speculated on the reasons that secondary control responses may emerge somewhat later in development than primary control responses. On a practical level, cognitions are not observable, and, therefore, children cannot learn them through observation. As children mature and find that primary control does not always bring the results they wish, they may begin to question their illusions of control. Eventually, they may turn to secondary control strategies as a means of retaining some measure of control. Weisz (1990) suggests the following:

> ...Secondary control goals may be more likely to be included among coping objectives (a) when the individuals doing the coping are relatively mature cognitively, (b) when the stressful situations involved place limits on the

> possibility of primary control, and (c) particularly when both (a) and (b) hold true. (p. 129)

Rosenberg (1990) suggested that younger children may not have developed enough awareness of their thoughts and feelings to use one to regulate the other. He quotes Piaget (1951) saying "...in virtue of his very ego-centrism, the child is not conscious of his own thought..." (p. 179). Without the resources to use secondary control strategies, the child may be forced to rely on primary control just at a time in his life when he is least competent to act on the world directly. Being unable to judge contingency accurately may lead to depression in children who are not sure whether a failure event is their own fault or whether or not to persist at a task. According to Wiesz, Weiss, Wasserman, and Rintoul (1987), therapists could help children to identify causes of both failure and success as part of their treatment for depression.

Adulthood

The next chapter of this paper will examine studies of primary and secondary control strategies as they pertain to cultural and religious differences as well as health outcomes of adults. Therefore, the discussion of adults in this section will be limited to developmental issues. One of the tasks of adulthood is to further define perceptions of control. The uncontrollability theorists would argue that adults conceptualize an adaptive level of perceived control in terms of primary control alone. Rothbaum et al. (1982), however, suggest that adaptiveness is a matter of knowing how and when to exert primary or secondary control and how to integrate the two.

Weisz (1983) has suggested that although most studies confound competence and contingency, it appears that, in general, adults are overly optimistic about their competence and see contingency where none exists (Alloy & Abramson, 1979; Langer, 1975,1977; Brim, 1980). According to Schulz, et al. (1991), over time

individuals get better at assessing what they can and cannot accomplish within one life span. They seem to prefer primary to secondary control processes, but begin to use increasingly more secondary control strategies as their physical abilities diminish with age.

Believing oneself to be more responsible for and competent to handle situations than is the case has both advantages and negative consequences. Being overly optimistic may contribute to the decision to persist in an effort long enough to succeed at it. On the other hand, if that effort is beyond one's capabilities or impossible, the effort is wasted and the individual will experience failure with its usual consequence of diminished self esteem.

Langer (1975, 1977) has suggested that people may perceive contingencies where none exist in order to avoid the anxiety and depression that accompany uncontrollability. She states that the degree of this illusion of control is influenced by the following factors: (a) perceived competence of a competitor on a task (even when the task is chance-related), (b) having a choice or selection, (c) being familiar with the situation, or (d) increasing concentration on the event. Subjects may attempt to obtain control through superstitious factors (e.g. blowing on dice before throwing them), or by aligning themselves with a chance event (e.g. valuing a familiar lottery number more than an unfamiliar one). What these factors have in common is that they increase the involvement of the participant through either behavioral or cognitive means. Langer and Roth (1975) found that those who predicted the outcomes of a coin toss (a chance event) rated themselves significantly higher in competence than those students who merely observed. The authors suggested that the students who were more involved in the event exhibited more illusion of control. These young, presumably intelligent, adults illogically misjudged that their competence had an effect on a

noncontingent event. Langer's illusion of control parallels illusory secondary control in the two process model. Rothbaum et al. (1982) agree that when people misperceive chance-determined events as skill-determined, their involvement in that chance situation, and thus their perception of alignment with chance (illusory secondary control), increases with the passage of time.

There has been some work on which individuals in what situations are most likely to maintain an illusion of control. If people realistically identify factors such as chance and luck as being in control of outcomes, but somehow believe that they can influence chance or luck, they may experience repeated failure in an inherently uncontrollable world. In a study of 204 female college students, Schmitz (1987) administered the Attributional Style Questionnaire, the Beck Depression Inventory, Levenson's I, P, and C Scales, the Life Events Questionnaire, the MMPI, Rotter's Internal-External Locus of Control Measure, the Tennessee Self Concept Scale and the Student Primary-Secondary Control Preference Scale developed by Blackburn (1984). Information regarding women's causal attributions for negative and positive events was not found to be of assistance in making predictions about depression or self-esteem deficits, but information regarding their beliefs about control and recent life experiences was. Level of perceived competence was the most effective means of distinguishing between people on the basis of depression. Contingency beliefs were less relevant to depression, but very related to self-esteem. Abramson and Sackheim (1977) called the process of being able to identify noncontingency of outcomes, while still attributing responsibility to the self, the "depressive paradox."

If "depression is the common cold of psychopathology," as Seligman (1973, p. 43) has suggested, then most adults will be subject to it to some degree at some time or another. Seligman and other learned helplessness theorists have suggested that

depressed people underestimate the contingency between outcomes and their behavior (Alloy & Seligman, 1978). Alloy & Abramson (1979), however, in a seminal study, found that depressives view the contingency of their outcomes realistically, and it is the nondepressed who show distorted contingency judgment. Evidence suggests that individuals who score high in desire for control demonstrate a greater illusion of control (Burger, 1986; Burger & Cooper, 1979), but low desired control scores correlate with depression (Burger, 1984).

Learned helplessness theorists see depression as a behavioral manifestation of perceived uncontrollability. Rothbaum et al. (1982) argue that the passivity and perceived lack of effort shown by some subjects may be a reflection of the subjects' attempts to excuse failure. They refer to Frankel and Snyder's (1978) theory that withdrawal and passivity reflect a desire to minimize or diffuse failure on a task thereby preserving self-esteem and a sense of control. An induced helplessness procedure (which makes primary control ineffective) may temporarily lower subjects' self-esteem, resulting in a switch to predictive secondary control in order to avoid the disappointment of failure. By deliberately sabotaging success at a task, the subject is able to predict the outcome and therefore feels in more control of it.

Berglas and Jones (1978; Jones & Berglas, 1978) state that the burden of feeling responsible for success or failure, despite perceiving that the task is noncontingent, sometimes motivates individuals to adopt a self-handicapping strategy. The authors describe a self-handicapping behavior as one that allows the individual to externalize failure and internalize success. In other words, these individuals perceive that they have no control over a task but that they are doomed to failure. They then sabotage their efforts in order to maintain their self-esteem by blaming their success or failure on external, specific, unstable factors. An individual who relinquishes control, yet

maintains that he has control of the situation, despite knowing that the results are due to chance or luck, is demonstrating illusory secondary control.

Uncontrollability theorists cannot explain why depressed subjects continue self-defeating behaviors even after success experiences (see e.g., Beck, 1967). According to the two process model, however, this phenomenon is explained by predictive secondary control. Depressed subjects may have had repeated past failures in which they have attempted to minimize disappointment by expecting failure rather than "getting their hopes up." If they were to acknowledge a success and change their actions accordingly, the viability of a predictive secondary control strategy would be compromised. If they were to begin to hope, disappointment would be even greater when they failed in the future than if they had predicted failure from the start.

A study conducted by Burger and Arkin (1980) yielded results consistent with this theory. This study examined the effects of perceived (primary) control and predictability of an aversive event on depressive affect and subsequent performance of a memory task. The uncontrollable-unpredictable group performed significantly worse on the memory task and reported more depression than the control group. The authors concluded that "the perception of control or predictability concerning the aversive event was thus sufficient to mitigate learned helplessness, suggesting the functional equivalence of perceived control and predictability" (p. 482).

Further support that nondepressed adults display an illusion of control, but that depressed adults do not, comes from Golin, Terrell, Weisz & Prost (1979) and Golin, Terrell, & Johnson (1977). In the first study, depressed subjects were shown to have more confidence in a low-illusion condition (experimenter threw the dice in a dice game) than in a high-illusion condition (subject threw the dice). Nondepressives had more confidence in their own dice throws than the experimenter's. In the second

study, Golin replicated these findings for a more severely depressed population. According to the two process model, the depressives appear to be aligning themselves with the experimenter, thereby displaying vicarious secondary control. The nondepressives attempt to demonstrate primary control by throwing the dice themselves in hopes of influencing the outcome. Weisz (1983) speculated that since the nondepressed subjects had the illusion of competence and contingency (illusory secondary control) they felt more confident when they were throwing the dice. Since depressed subjects have lower estimates of their competence, they may have felt more confidence in the experimenter's "ability" to throw the dice. Weisz points out the interesting deduction that the depressed subjects mistakenly believed they were less competent than the experimenter, and the nondepressed subjects mistakenly believed they were more competent than the experimenter, on a task which was entirely uncontrollable.

Lewinsohn, Mischel, Chaplin, & Barton (1980) found that depressed subjects made much more veridical judgments about their own social competence than did either disturbed or nondisturbed control subjects who were not depressed. Although the realism of the depressed group declined over a course of treatment, they still viewed themselves as less competent socially than the nondepressed did. Lewinsohn et al., (1980) suggested the possibility that nondepressed people exhibit an illusory glow of exaggerated perceptions of personal competence. Weisz (1983) hypothesized that one possible causal pattern might be that this warm glow leads to a selective focus on, and memory for, an individual's positive attributes and accomplishments, thereby sustaining positive self-perceptions and positive mood. This would seem to be an example of selective attention secondary control.

Secondary selective attention may be more adaptive than is generally realized. From a study which had subjects complete a life events inventory, the Beck Depression Scale and the Repression-Sensitization Scale, Neiswender (1991) reports that:

> The results indicated that the most effective copers (as measured by depression scores) were those who used repression or denial to cope with recent life events. This is similar to work by Miller, Leinbach, & Brody (1989) and Miller, Brody, and Summerton (1988). (p. 14)

Although there have been many studies reporting that individuals who perceive themselves to have low subjective primary control are depressed, having primary control may sometimes lead to negative reactions as well. Miller (1980) found that subjects, when given a choice to yield control of electric shocks to a yoked partner, were less anxious than those who retained control. Rodin, Rennert & Solomon (1980) found that subjects given a choice of which personality test to take or permission to ask questions during an interview reported lower self-esteem on a subsequent task than those subjects who were not given choices. In a field study, Mills and Krantz (1979) manipulated primary control by allowing subjects to choose the arm from which they wanted blood drawn. The experimenters also manipulated secondary control by giving some subjects more information about the procedure. The subjects who were given a choice and more information reported more anxiety than those subjects who were not given a choice. If there are individual differences in style of control, some subjects may prefer a secondary control process rather than a primary control process, in which case these results make more sense. In the Miller (1980) study, the subjects who yielded control may have been selecting their preferred control process (i.e., vicarious secondary control) and therefore experienced a reduction in anxiety. The subjects who maintained control also selected their preferred style of control, but did so at the cost of being responsible, and possibly experiencing more

self-blame, for shocks both to themselves and the other subject. Thus, the subject who retained control over the shock may have experienced less anxiety if he was not also responsible for the other person's well-being.

The evidence for gender differences in preference for primary or secondary control are equivocal. Blackburn (1984) found no sex differences when he administered the Student Primary and Secondary Control Preference Scale to college students even though he was investigating the differences between Type A and Type B personality styles. His results support Gaeddert (1987) who found that students' gender had little impact on their attributions. Ganong and Coleman (1987) found that males and females were equal in the degree they utilized active (primary control) or yielding (secondary control) methods of self-control. This finding corroborated Shapiro and Shapiro (1983). Cameron (1983) found no gender-related differences among 11- to 13-year-olds, although Band & Weisz (1988) report that boys and girls differ in how they choose to handle stress. When a difference is found it is usually that males show a preference for primary control while females favor secondary strategies (Cameron, 1983). In a German study, Brandtstadter, Krampen, & Greve (1987) examined self-corrective activities which they considered a form of secondary control. Females showed a stronger tendency toward self-corrective change than males.

Support for Rothbaum et al.'s notion that a balance of primary and secondary control is most adaptive for adults is found in a study conducted by Coyne, Aldwith and Lazarus (1981). The subjects, middle-aged persons divided into depressed and nondepressed groups, provided interview and questionnaire data over the course of a year, describing stressful situations they had encountered and the thoughts and actions which they had used to cope. Unexpectedly, the depressed subjects used as much problem-focused (primary) coping as the nondepressed subjects. Although, they were

no more self-blaming than the nondepressed subjects, the depressed individuals were less likely to see their stressful situations as something to accept.

Schmitz (1987) has posited that there may be a continuum in which efforts toward primary control may decline with decreased perceptions of competence. Secondary control may increase accordingly, as long as some belief in contingency persists. As people perceive outcomes to be more and more erratic and arbitrary, secondary control may give way to relinquished control.

Old Age

The major life events experienced by the elderly involve loss (Butler, 1975). At retirement an individual experiences a major loss of actual contingency in the world of work. Even her health is less dependent on primary control strategies such as diet, exercise, and moderation as biological systems begin to break down. If she is moved into an institution, she will experience an extreme loss of contingency as she must adjust herself to the institution's schedule of meals, visiting hours, bed- and even bath-times rather than her own. She becomes infantilized as her everyday activities are conformed to the institution's bureaucratic rules. If she has been involuntarily relocated to the institution (as most nursing home residents are), she has an increased risk of morbidity and mortality (Aldrich and Mendkoff, 1963; Killiam, 1970). Weisz (1983) hypothesized that:

> If such declines in actual contingency are accompanied by increasingly depressed affect, and if depressed affect is associated with especially veridical judgments of actual contingency, the result may be a kind of downward spiral characterized by increasingly accurate perceptions of increasing noncontingent life events. In turn, there is often an increased dependency on others to meet one's needs in terms of activities of daily living.... A major developmental task for this age group is to strive to maintain some sense of mastery and control while accepting the inevitable losses that accompany aging. (p. 258-259)

Apathy and depressed affect are said to be disproportionately frequent among the aged, particularly the institutionalized aged (Langer, 1982; Schulz, 1980; Schulz & Brenner, 1977). Even if primary control is possible upon entering a nursing home, the patient is lulled into mindlessness (see Chapter Two) by the boring routine and predictability of the institution (Chanowitz and Langer, 1980). Generally, the resident has a choice between helplessness or secondary control.

The two process model can help make sense of the relation between controllability and depression for older individuals. Because primary control is constrained by biological and environmental factors, secondary control becomes especially salient for the elderly. There is considerable evidence suggesting that seniors, especially those in institutions, perceive low levels of contingency (Langer, 1981; Langer & Rodin, 1976) and perceived competence also declines. According to Brim (1974), acknowledging that many of one's dreams will never be realized, watching one's children become absorbed in their own lives and friends pass away, contemplating the inevitability of one's own death may begin in mid-life but reach a special intensity in old age. In light of these real and anticipated losses, predictability, finding meaning and purpose in life events (interpretive secondary control) and alignment with physicians, God and other powerful others (vicarious secondary control) can be especially useful for older adults.

Irion (1988) interviewed 70 nursing home residents screened for absence of substantial cognitive impairment about their perceptions of control over meals, activities, privacy and schedule. She found that primary, secondary and relinquished control were significant predictors of outcomes over and above the effects of demographics or symptoms of aging or physical disability. Traditional control theory constructs did not add to the prediction of well-being once primary, secondary, and

relinquished control were considered. Irion concluded that "The unique contribution of two-process control constructs suggests that they are tapping another dimension of controllability that traditional models have not adequately captured" (p. 73).

Schulz (1980) cited several laboratory studies (Dweck & Repucci, 1973; Hanusa & Schulz, 1977; Hiroto, 1974) which suggest that a lack of control is most devastating when it carries implications for the individual's competence or worth. Langer (1982) states that the elderly, particularly those in institutions, are particularly susceptible to this devastation since they perceive themselves as more incompetent than they actually are. She reviewed a number of studies which appear to show that mistaken perceptions of incompetence can be induced by (a) being assigned a deprecating label such as "old" (b) being no longer able to engage in a task that one formerly engaged in but that is now engaged in by another (a job, in the case of the retired elderly), and (c) allowing someone else to help you (something that often occurs unnecessarily among the elderly).

Taken from another perspective, Ziegler and Reid (1983) found that in their 79 nursing home resident subjects, a greater desire for control was related to greater happiness and better health, though the authors did not posit a causal relationship. Desire for control in an environment which discourages autonomy can pose serious problems. Experiments with giving nursing home residents more control have had mixed results. Although most experimenters assume that more personal control will lead to positive consequences, interventions which seek to enhance personal autonomy sometimes backfire. If those interventions are removed from the institutional environment after the experiment, morbidity and mortality increase (Schulz and Hanusa, 1978). Failing to take into account the very real constraints imposed by the institution and the limited capacities of an older, unwell individual, the experimenter

may, in seeking to increase autonomy, foster helplessness. Schulz (1980) suggests, "Manipulations that increase control and at the same time elevate feelings of competence should have a greater and a longer lasting positive impact than control-enhancing interventions that do not affect competence attributions" (p. 272).

Weisz (1983) speculates that interventions designed to heighten perceived contingency among the elderly (e.g., Langer & Rodin, 1976; Schulz, 1976) may be more effective, especially in the long run, if they are compatible with the realities of the life situations of the individuals than if they represent more temporary, fleeting changes that are difficult to sustain after the experiment has been completed. Kuypers & Bengston (1973) argue for interventions that foster feelings of competence in social-role performance, personal mastery and inner control. Enhancing secondary control may be much more adaptive for seniors than attempts to increase primary control given the reality of fewer opportunities to exercise behavioral control. According to a literature review by White and Janson (1986), "Those most at risk for true helplessness are the depressed residents with the highest internal locus of control attempting to utilize primary control strategies" (p. 309).

A finding which appears in several studies is that religious faith seems to be particularly salient among the aged. For example, Strickland and Shaffer (1971) found elders to be more internal and reported significant positive relations between age, internality and intrinsic religious stance. Koenig, George & Siegler, (1988) found that religious attitudes (i.e., faith or trust in God, strength derived from God, private prayer) and other intrapsychic and cognitive methods (i.e., acceptance, comparison of self to others) comprised the most predominant strategies that older individuals found effective in handling stress.

Shaw (1989) found in a study of coping and control in nursing home residents that secondary control was used when the amount of perceived control was low, and it was somewhat influential on coping effectiveness. She reported that in her interviews many of the residents said that prayer was their only means of dealing with living in a nursing home. Irion (1988) heard similar statements in her interviews. She writes, "For example, items intended to tap traditional internality such as, 'When I get what I want, it's usually because I worked hard for it,' prompted comments such as, 'I pray a lot about it, and if it's God's will, I'll get it'" (p. 77).

In a paper integrating theology and psychological theories, Spilka and Bridges (1989) seem to be speaking about the religious stance of nursing home residents when they write, "Theologically, the issue is that of salvation, understood here as salvation from meaninglessness to meaning, from an unhealthy self-image to a healthy one, and from helplessness to control" (p. 347). In an explanation of primary and secondary control strategies they list the following:

> (1) From an individual perspective in traditional religion, power and control are usually associated with prayer. Though prayer satisfies a number of motives, most people pray to effect some change in objective reality which will resolve a problem (Clark, 1958). The aspiration is primary control, but the outcome is not usually up to the individual. By engaging in prayer, the person feels more capable and has thus changed the self - inadvertently providing a secondary control function.
> (2) Though Ogden (1963) still looks to prayer's "ultimate significance, that it be heard by God" (p. 67), his accent is overwhelmingly on what prayer does for the person. Implied is the objective power of God, and hence we have a kind of vicarious control. Personal prayer gives the individual the feeling that the burden is now in the hands of God. There has been a transfer of power from the person of God, with the individual benefiting by gaining a sense of security that control is in the "best" hands. This is the language of secondary control. (p. 348)

The authors write of the hope, engendered by religious faith, that predicting salvation and deliverance gives the supplicant. "Helplessness is thus countered, and immediate burdens are lightened" (p. 349). Felton and Kahana (1974) hypothesize that a belief in external control among institutionalized older adults may reflect their need

to "seek out a champion..., a mediator between the powerless self and the rigid institutional milieu" (p. 300).

Summary

At different times over the life course, the issue of control and the related concept of autonomy (i.e., self reliance; the ability to function independently) become more or less salient. For example, according to Erikson's (1950) theory of psycho-social development, young children learning to master their bodily functions and trying to assert their independence face the task of establishing a sense of autonomy versus one of shame and doubt. Again in adolescence and young adulthood, the individual is challenged to become more independent, establish a sense of identity, and make choices concerning the future (Erickson, 1968). Hence, for both the young child and the adolescent or young adult, asserting control over the environment and cultivating a sense of autonomy are key developmental processes. By contrast, older adults are faced with concerns such as retirement, widowhood, declining health and physical functioning (Bengston, 1973; Kuypers & Bengston, 1973).

Aldwin & Revenson (1985) found that older adults perceive themselves as responsible for the occurrence of a stressful event less often than younger adults, but both groups took equal responsibility for managing the stressful event. Perhaps the use of secondary control is more characteristic of older individuals, especially in uncontrollable circumstances, and represents a developmental progression from young adulthood during which primary control is tantamount. Secondary control affords the individual in a highly constrained environment the opportunity to perceive some sense of control, whether it be through positive reappraisal (i.e., interpretive control), association with and trust in the staff, God or the physician (i.e., vicarious control),

belief in fate (i.e., illusory control) or restructuring expectations (i.e., predictive control). As individuals reach middle and old age, most cultures downplay attributes related to primary control, such as physical abilities, and emphasize attributes related to secondary control, such as wisdom (Sternberg, 1990). These prescriptions provide individuals with the opportunity to maintain a sense of equilibrium in the face of biological senescence (Schultz, et al. 1991). With the gradual erosion of primary control during the later years, Shultz, et al. (1991) suggest, comes the wisdom to "shuck off" some of the sense of responsibility for things we cannot change. In the light of these considerations, a question posed by the insightful folk psychologist Satchel Paige, quoted by Bandura (1981), is worth repeating: "How old would you be if you didn't know how old you was?" (Weisz, 1983, p. 277).

Trillin (1981) quotes William Saroyon exercising secondary control by saying, "I'm growing old! I'm falling apart! And it's VERY INTERESTING!" Also very interesting is how the two process model is involved in health care. The next chapter will explore not only health care, but religion and culture which are even more interesting!

CHAPTER FOUR
PRIMARY AND SECONDARY CONTROL IN HEALTH, CULTURE AND RELIGION

There are a myriad of arenas in which to study the two process model of perceived control, from romance to employee relations. In the last chapter, the development of the uses of primary and secondary control strategies was discussed. Although this concept is relatively new, and studies have just begun to scratch the surface, this chapter covers three fields where research has been most extensive. There is much overlap between health, religion and culture, so the boundaries between sections of this chapter are diffuse rather than rigid.

Health

People's perceptions of control over their health status can affect their behavior as well as the course of any illness.

> " . . . Becoming ill can be a shock to a person's sense of security and to his or her self-image. Not only does it threaten the customary view of oneself, but it further underscores that one is indeed vulnerable (to illness, and perhaps then to other problems), that life is uncertain, that one may have little control over events. . ." (Cohen and Lazarus, 1979, p. 218)

Being injured in an accident, being hospitalized, developing a chronic illness all bring up primitive survival fears. The individual's basic assumptions about the world are shattered as he struggles with existential questions of purpose, mortality, vulnerability, loneliness. In fact, the onset of chronic illness is so stressful that Helgeson (1992) calls it a victimization experience. Because of their similarities, both health and victimization will be considered in this section.

Unexpected aversive events destroy our security in a just and predictable world. Wolfenstein (1957) notes that a disaster victim loses "confidence in his luck" (p. 159) fearing that now anything could happen. If an individual can regain a perception of control over future events, Taylor (1983) states that he will be able to believe that victimization is manageable or will not be repeated. Several authors have written that perceived control may positively affect health by increasing coping efforts and persistence, providing one with a positive self-image, and reducing distress (Bandura, 1977; Lefcourt, 1976; Thompson, 1981). The complex interaction of perceived control and ill health appears to depend on the severity, duration and nature of the patient's problems, as well as individual differences between patients and even their cultures.

The medical model has generally encouraged vicarious secondary control in patients. We go to physicians to be healed, and we expect them to offer some treatment (e.g., chemotherapy) or procedure (e.g., surgery) which will bring our bodies back to health. Although illusions of control are generally adaptive (Taylor & Brown, 1988), Taylor, Kemeny, Reed and Aspinwall (1991) suggest that those illusions need to operate within realistic boundaries to be adaptive. When there is little that can be done to cure a patient, as in the case of AIDS, a belief in vicarious control can be maladaptive (Reed, 1989). If family members are used as objects of vicarious control, males may exhibit distress. In a study of men with advanced heart disease (Dracup, Guzy, Taylor and Barry, 1986), those whose wives had been trained in CPR (and were thus capable of literally saving their husband's lives) were significantly more anxious than those whose wives had not been trained.

Several studies have looked at the role of primary and secondary control strategies in Types A and B personalities. Since Type A behavior has been shown to lead to coronary heart disease (CHD), interventions for this group are greatly needed.

The characteristic of Type As which Powell (1992) calls the "pathogenic core" is hostility, which is a stronger predictor of CHD than the Type A personality itself. The picture of Type As which emerges from the literature is characterized by mistrust. (Williams & Barefoot, 1988). Time urgency, excess drive, anger, impatience, passivity and depression were seen by Glass (1977) as signs that Type As were striving for control in the face of a challenging, and often unmalleable, environment. Price (1982) hypothesized that their hostility comes from the belief that life is unjust and chaotic, and their competitiveness from the belief one has to fight to get one's fair share of limited resources. Aggression, vengeance, low self-esteem and low perceived control are also important factors in the Type A makeup (Glass, 1977; Friedman & Ulmer, 1984).

When Type A college students were compared to Type B students, Blackburn (1984) found that Type Bs valued primary control as much as As did. The difference seemed to be that Bs showed a greater preference for secondary control. Kenney (1987) found that Type As know about but do not use secondary control strategies in an adaptive, efficacious, and situationally appropriate manner. He agrees that As tend to try to control situations that are uncontrollable to a greater extent than Bs, and that Bs conversely are more likely to accept uncontrollable situations, frequently finding a way to avoid disappointment or to reinterpret the situation more positively, perhaps as bad luck (illusory secondary control). He also found, however, that As evidenced a significant use of secondary control.

Brunson & Matthews (1981) found that when faced with a failure event, Type Bs attributed that failure to situational factors and disengaged from the task, but Type As attributed failure to dispositional factors and tried harder. This supports Powell's (1992) finding that Type As blame the environment for problems, but believe that the

environment can always be changed with persistence. Neibuhr's (1943) Serenity Prayer seems to have been especially written for Type As, "God grant me the courage to change what can be changed, serenity to accept what can't be changed, and wisdom to know the difference." In other words, "Help me know when to use primary or secondary control."

Blackburn (1984) states that high hostility individuals, which would include most Type As, seem to prefer primary control more than low hostility individuals:

> It seems that an impatient, competitive person with an internal locus of control overly biased toward the exercise of primary control, and who was relatively unable to utilize secondary control, would naturally tend to be aggressive and hostile to the extent that desires for control were frustrated. From what we know of Type A, this composite psychological/behavior profile would seem to maximize the person's feeling of being at odds with the environment (including other people). The result would then be a tendency to experience the chronic stress that may be a factor in CHD development. (p. 94)

Powell (1992) followed 591 post-myocardial infarction patients for 4.5 years as they were counseled regarding their basic attitude about the world. She encouraged both a belief in reciprocal determinism, which de-emphasizes blame and considers causes of problems from multiple perspectives, and a related belief that trying harder or longer will not always lead to desired results. Using cognitive restructuring interventions, Powell taught these patients to diminish their reactivity to minor stressors:

> We suggest to patients that these minor stressors are "hooks" and they are like fish swimming past as many as 30 hooks each day, each of which are inviting them to bite (i.e., to lose their tempers and become angry, impatient or irritated). We then invite patients to recognize "the hook" – that is, to switch the immediate perception of the stressor from "Unfair!" (which is accompanied by irritation or impatience) to "Hook!" (which is frequently accompanied by amusement.) In short, we seek a switch from primary to secondary control, that is, predictive secondary control in that they know in advance it is coming, even though they can't know exactly when. (p. 137)

As her subjects improved at identifying "hooks" they reported greater feelings of self-control and self-efficacy. Powell's goal was to teach them versatility in choosing

between primary and secondary control strategies. Her CHD patients were also taught more effective primary control strategies which were not accompanied by as much emotional arousal as their past methods. The physiological results of Powell's study add an important dimension to our understanding of the two-process model:

> The use of secondary control may exert the same beneficial effects on physiology as those obtained by primary control. Direct primary control over pain has been associated with an increase in endogenous opioids (Bandura, O'Leary, Taylor, Gauthier & Gossard, 1987). But increased endogenous opioids also resulted from the use of vicarious secondary control which presumably was operating when subjects ingested a placebo painkiller (Grevert & Goldstein, 1985). (p. 135)

In a study of chronic pain sufferers, Mendola (1990) found that as the duration of the individual's pain increased, primary control appraisals were no longer beneficial. Related to this hypothesis is research which has found that, with increases in severity of the stressor, the adaptive value of primary control decreases (Affleck, Tennen, Pfeiffer, & Fifield, 1987). Severity of stressor may affect the effectiveness of secondary control as well. Mendola (1990) found predictive control was associated with more global psychological distress when his sample of chronic pain sufferers rated the severity of the pain as low and less at high levels of pain severity. In another study of coronary heart disease patients, Helgeson (1992) found that perceptions of vicarious control were related to better adjustment only for patients who had undergone invasive procedures by physicians. She states that perceived control will be most adaptive when the outcome is controllable and the threat is severe.

Perhaps the most useful secondary control strategy for impaired health or bodily functioning is the derivation of meaning from the stressor, interpretive control. A growing body of research has documented the benefits that individuals construe from major medical problems (e.g., Affleck, Tennen, Crog & Levine, 1987; Affleck, Tennen & Gershman, 1985; Taylor, Collins, Skokan & Aspinwall, 1989; Tennen, et

al., 1991; Affleck, Pfeiffer, Tennen & Fifield, 1988). Construing benefits has been associated with emotional well-being among breast cancer patients (Taylor, Lichtman & Wood, 1984), mothers of seriously ill infants (Affleck, Allen, Tennen, McGrade & Ratzan, 1985) and infertile women (Tennen, Affleck & Mendola, 1991). Affleck, Tennen, Croog & Levine (1987) found that heart attack victims who derived benefits from their illness were less likely to have a subsequent heart attack over an eight-year period, and Affleck, Tennen, and Rowe (1991) reported that mothers who found benefits in their child's hospitalization on a newborn intensive care unit had children who developed more optimally two years later. Some common themes include that the illness strengthened family relationships and led to increased patience, tolerance, empathy, and courage as well as changes in values and priorities.

Perloff (1983) suggests that before a serious health or victimization event occurs to us, most of us operate under an illusion of invulnerability, which may be similar to illusions of control. She suggests that illusions of unique invulnerability, the feeling that "it can't happen to me," may benefit nonvictims by keeping feelings of anxiety at a manageable level, promoting feelings of personal control, and allowing them to carry out everyday activities without being hypervigilant and eternally "on guard." Unfortunately, such illusions may also discourage us from taking adequate precautions such as wearing seat belts or not smoking, and make coping even more difficult after aversive events. According to Walster (1966), people do not want to believe that severe negative outcomes can happen randomly, since such a belief forces them to concede that an accident or misfortune could happen to them. To avoid facing such a frightening thought, nonvictims will often blame the victim and convince themselves that they are somehow different from, and more capable than, the victim (Perloff, 1983).

Silver, Boon & Stones (1983) state that finding meaning in the case of incest, where the victim is chronically abused and powerless, or in situations which are judged to be particularly unfair, may be especially difficult. Some victims of rape react by "living dangerously" (Scheppele and Bart, 1983) which Peterson & Seligman (1983) suppose may be an attempt at secondary control. Seeking meaning in isolation may be especially challenging as in being the victim of socially unacceptable behavior (incest, rape, death of loved one by suicide). Silver et al. studied 77 women whose incest had terminated an average of 20 years previously. They found that if, after an extended period, the search for meaning fails to bring understanding, continuing the process of searching and repeatedly ruminating appears to be maladaptive. The women who had been able to make sense of their experience reported less psychological distress, more self-esteem, better social adjustment and greater resolution of the experience than the women who were still searching for meaning.

The research of Witenberg, Blanchard, Suls, Tennen, McCoy & McGoldrick (1983) and Tennan et al. (1984), suggests that finding meaning in a chronic medical illness leads to better coping and compliance with treatment. Experimenters frequently ask individuals who have experienced an aversive event if they have asked themselves "Why me?" If they have, it would seem likely that they were attempting to use interpretive secondary control. Affleck, Tennen & Gershman (1985) asked 42 mothers of high risk infants if they had asked themselves, "Why me?" The majority of parents had appraised the crisis as purposeful or gainful which the authors surmise helped them maintain self-esteem. Affleck et al. note that:

> This finding supports the hypothesis that the decline of repetitive, intrusive thoughts about a stressful experience occurs as victims rebuild basic assumptions about themselves and the world: the belief in relative invulnerability, the conviction of mastery over the environment, and the view of the world as meaningful and understandable (Janoff-Bulman & Frieze, 1983; Perloff, 1983). (p. 655)

In a related study, Affleck et al. (1985) discovered that of 34 mothers of children with insulin dependent diabetes, approximately 85% said they had asked themselves the question "Why me?" and most had come up with an answer. Most of those answers involved combinations of other secondary control strategies with interpretive control. The authors divided the answers as follows:

> 1. God's will/fate (e.g., "God must have a reason for this to happen" [vicarious control]; "Things were going so well in our life that this just seems to have been destined to happen to us" [illusory control])
> 2. punishment (e.g., "I stopped going to church after I was married" [vicarious control])
> 3. selection (e.g., "I guess I was selected to have this happen to my child [vicarious control]; I'm the type that can handle something like this"). (p. 371)

Nearly two-thirds of these mothers said there were benefits to having a child with diabetes such as emotional growth, improved family health habits, closer bonds within the family and deeper compassion for others.

In a study of 65 women with impaired fertility, Mendola, Tennen, Affleck, McCann & Fitzgerald (1990), found that believing that the struggle to conceive had strengthened one's marriage, and attributing the failure to biomedical causes, each made an independent contribution to psychological symptoms. The conceptual distinctions among primary control, secondary control, and causal attributions would seem to be supported with causal attributions reflecting primary and secondary control strategies at times. Causal ascriptions brought meaning to misfortune, thereby promoting interpretive control. The answers people come up with for "Why me?" help them to restore their belief in an orderly, purposeful existence. Mendola et al. (1990) state that "...threat appraisal, secondary control strategies, and causal beliefs each play a pivotal role in people's psychological response to threatening events" (p. 91).

The findings from Affleck et al.'s (1987) study of patients with rheumatoid arthritis emphasize the need to distinguish which aspects of chronic illnesses are

subject to the patient's control in making predictions about the adaptive significance of control appraisals in a chronic disease. The subjects in this study reported they felt more in control of their symptoms but their physician had more control over the course of their disease (See also Miller, 1980). Living with a serious chronic illness involves attempting to balance our need to maintain a sense of mastery over our lives with the perceived need to surrender treatment of our disease to health care providers (Reid, 1984). In other words, balancing primary and secondary control processes encourages both action and acceptance.

When patients feel that they have lost control of their physical health, and that they cannot fully trust their health care providers, they frequently resort to covert strategies to regain that control. Montbriand and Laing (1991) state that noncompliance with health care directives may be an attempt by patients to regain control of their own disorder. The authors also report that in their Canadian subjects, 89% (67 out of 75) of the informants were using alternative health care. None of the subjects had informed their physicians they were using alternative health care. Most of the patients chose a physical alternative such as an acupuncturist, chiropractor, or vitamin supplements. Those who chose to use spiritual alternative care evoked a cosmic source which was usually but not always God or a saint. Psychological processes of alternative care included visualization techniques, self-distraction, and attitudinal change. Although coveting taking back control, some of the patients immediately gave that control away to an alternative practitioner.

Montbriand and Liang (1991) caution biomedical professionals to question their belief that they are responsible for and in control of their patients' health care. Patients who seem compliant may actually be covertly working with alternative methods. Besides the finding that patients frequently take back control in this way, the authors

state that all health care appears to be susceptible to the forces of chance. They add that believing that anyone can control a health-care action is an instance of illusory control used to deny the chance nature of healing.

Culture and Religion

Spiritual faith, in all its many forms, is also frequently associated with both vicarious and interpretive secondary control. Thompson and Spacapan (1991) state that for many subgroups in Western societies undergoing major life stresses, the choice between attempting to change a situation or adjusting to it is a central concern. They cite religious involvement of African Americans as an example of secondary control processes which are used to lessen stress and impart a sense of mastery and self-esteem. Meyerowitz (1980) sampled strongly Catholic working class subjects finding that they frequently attributed cancer to God's will, but Taylor et al. (1984) found that a predominantly Jewish, upper middle class sample rarely did.

In a study of adolescent cancer patients, Tebbi, Mallon, Richards, and Bigler, (1987) suggest the following:

> ...religion provides a valuable source of support for many patients, providing a meaningful interpretation of existence and giving life a purpose which it might not otherwise have. The belief that religion can provide security in the face of death, endorsed by a majority of these patients, is in accord with data from previous investigations of advanced cancer patients (Gibbs & Achterberg-Lawlis, 1978; Yates, Chalmer, St. James, Follansbee & McKegney, 1981) that showed less fear of death and greater life satisfaction in more religious patients. (p. 694)

The majority of adolescent patients in this study practiced their religion which helped them understand and accept their experience as part of a divine plan and to find some measure of security in the face of death. Over two-thirds said that they relied on a supreme being to control what they could not. Spilka and Bridges (1989) posit that prayer as a mechanism of secondary control helps the individual to feel more capable

which results in a change in the self. Coming to terms with life as the medium of both good and bad experiences by using secondary control strategies "lessens the weight of life's tragedies" (p. 349). Gibbs and Achterberg-Lawlis (1978) found that the adult terminal cancer patients they studied whose religion was a "powerful sustaining force" for them reported less conscious fear of death, less death imagery, less difficulty sleeping and a greater willingness to accept social support.

Gotay (1984) interviewed 112 female cancer patients and their mates. She found that patients with the most advanced disease were more likely to share their fears not only with other people but with their God. According to Gotay, religion may become more important over the course of an illness as death nears.

The importance of religious faith in other cultures gives us fascinating glimpses into the ways control is perceived in other countries. For instance, Dalal & Pande, (1988), explain that in Hinduism the principle of KARMA is widely accepted as an explanation for many tragic happenings in life:

> In Hindu culture particularly, belief in the principle of KARMA implies that good and bad deeds accumulate over all previous lives and if someone is suffering, he or she must have done some wrong in the previous lives. As interpreted by Parajpe (1984), the principle of KARMA is based on determinism, that all human behavior is lawful and no one can escape experiences of joy or suffering as the consequences of his own past deeds. This principle not only restores one's faith in justice but also provides a very convincing and socially acceptable explanation for the event. (p. 27)

Permanently disabled patients in this study were found less motivated to search for the causes of the tragic event and attributed the accident more to external factors than those who were temporarily disabled. Chance and God's will were the causes most frequently mentioned and attributions to KARMA and God's will were significantly correlated with psychological recovery.

Dalal and Pande explain that belief in the principle of KARMA is all pervasive among Hindus. Karma explains all of life's vicissitudes and reinforces the Hindu's

faith in a just world. Desire to control the environment is inhibited in Hindus in favor of controlling their emotions (Ruback and Pandey, 1991). Other sections of the Indian population including the poor (Sinha, Jain & Pandey, 1980), the disadvantaged (Misra and Misra, 1986) and the depressed (Jain, 1987) have also been found to frequently make attributions to God's will and chance. When the outcome is temporary and controllable, Hindus appear to prefer primary control, but when confronted with a permanent, unmodifiable outcome, they generally depend on illusory or vicarious control (Dalal & Pande, 1988).

The most exhaustive, although merely exploratory, study of cultural differences in the use of primary and secondary control was done by Weisz, Rothbaum & Blackburn (1984). These authors contrasted Japanese and American perspectives and practices in child rearing, socialization, religion and philosophy, work and psychotherapy. The only area Weisz and his colleagues found that Japanese seem to emphasize primary control is in those situations which involve pressure to achieve, especially academically. Otherwise, secondary control appears to be the primary mode of control for the Japanese.

Weisz and his colleagues looked at Zen Buddhism as a representative religion in Japan. In Zen Buddhism the worshiper attempts to purge himself of desire in the pursuit of bliss or enlightenment. With enlightenment, Buddhists no longer seek to change even tragic realities; instead they reinterpret and reorient to them as in interpretive secondary control. Kojima (1984) notes that, for Japanese, there is no separation between the self and the environment. It is the relationship between the two rather than the control of one over the other which Japanese seek to regulate.

Of course, all religions emphasize secondary control by providing purpose and meaning, and by fostering obedience to, association with and protection by at least

one deity. Christians historically have tempered their secondary control with a large dose of primary control, however. They send out missionaries, wage wars, evangelize, do good deeds and pray that God will alter reality as the supplicant wishes. In contrast, Zen Buddhists peacefully accept things as they are, seeing good deeds as hindrances to true insight (Noss, 1966).

Both vicarious and predictive secondary control can be seen in the Japanese worker. Where Americans value the self-made man with his emphasis on primary control, workers in Japan are more concerned with their company's success (Byron, 1981). When Japanese workers strive for primary control via a strike, they symbolically stop work over a lunch hour or make up the time later so that they maintain their vicarious secondary control. The Japanese have the security of predictive and vicarious control in their clear status hierarchy, but it comes at the cost of personal autonomy (Weisz et al., 1984).

Psychotherapy is even more different in the two cultures than business practices. Most American psychotherapists work with their clients to alter symptoms or problems. Japanese practitioners, on the other hand, consider a patient cured "when he has stopped groping for means to relieve his symptoms" (Reynolds, 1980, p. 34). Reynolds describes one of the main forms of therapy in Japan in the following:

> Naikan "best elucidates the core values of the Japanese culture" (Lebra, 1976, p. 201). It involves continuous, carefully structured, solitary meditation, initially in a small enclosed space, from early morning until late at night. Ideally, these meditations provoke an emotionally intense "restructuring of the client's view of his past ...along with a reassessment of this self-image and his current social relationships." (p 47-48)

Naikan therapy appears to offer its clients interpretive secondary control by providing meaning and purpose regardless of whether the patient's symptoms have been eliminated.

In a reply to Weisz et al., Azuma (1984) describes how he was socialized as a Japanese to yield in order to control his assertive drives and protect the peace and harmony of the group. He speaks of three different kinds of yielding: mature, self-controlled yielding; the yielding of being at peace with what fate has given one; and yielding based on love and empathy. In another response to Weisz et al., Kojima (1984) describes the Japanese art of indirectness:

> For example, instead of giving advice directly to a person, we Japanese often ask a third person to do so on our behalf. This indirect route is taken because we believe that it is more effective and can avoid arousing unpleasant feelings that often occur between the person giving advice and the one receiving it. Thus, primary control is exerted in a manner that is socially acceptable. What may be the difference between the Japanese and U.S. cultures is not only the ratio of primary to secondary control, but also the nature of socially accepted modes of primary control, that is, direct versus indirect. (p. 972)

Because secondary control processes are so integral to their culture, the Japanese are more interested in finer discriminations between those processes. Weisz, Rothbaum, and Blackburn (1984) relate the following illustration: "An American first visiting a sushi bar may see raw fish on rice, whereas a Japanese may see a rich array of delicacies, each differing from the others in subtle but very meaningful ways" (p. 974).

In a review of cultural differences in the concept of the self, Landrine (1992) proposes that our differences are mostly in the meanings we attach to behavior rather than in the behaviors themselves. She explains that in Western culture, since control is understood in primary control terms, we are expected to act upon the world and others in order to meet our needs, avoid punishment, and further our way of life. When we fail to seek primary control we are labeled helpless, passive, unassertive and lacking in self-efficacy, submissive, low in self-esteem, inadequate and depressed.

In contrast, Landrine lists the following sociocentric cultures: Asian-Americans, Black-Americans, Native-Americans, Hindu-Americans, most White American

women, and the vast majority of people around the world. In these cultures, individuals are inseparable from their roles within the family, more concerned with meeting the needs of their families and communities than their own.

In several cultures including Indonesian, Polynesian, some Asian, several Southeast Asian and many Native-American, ancestors and other entities are thought to dwell within individuals, using them as vessels. The Lohorung of East Nepal (see Hardman, 1981), share entity-forces as a community, linking individuals to ancestors. When a shared self has been away from any one person for too long, symptoms appear in the individual. He is healed when the self is found and returned to him (Landrine, 1992).

The Balinese see the individual as "a receptacle within which several supernatural forces interact as integral components of the individual's personality" (Landrine, 1992, p. 410). The Balinese destroy anything unique to the individual, who does not truly exist, in order to assure the immaterial beings, who are more real, are presented in as pure a form as possible. Landrine (1992) explains:

> (In sociocentric cultures,) the indexical self engages in secondary control: The individual is changed, adjusted and acted on until he or she fits more harmoniously within the family, relationship or community; or, the entire group is changed to improve the quality of life of all of its members, rather than for any individual. This radically different understanding of control can be misinterpreted by Western clinicians as submissiveness, passivity and helplessness and results in the frequent urge to provide assertiveness training, in particular, for Asian-American clients. Increasing the secondary – not the primary – control of all members of the relationship of relevance may be a more culturally sensitive, appropriate and acceptable treatment goal. (p. 412)

Landrine cautions Western psychotherapists who may be tempted to diagnose persons from other cultures as psychotic because they hear or see other entities, or because of other experiences or thoughts which would reflect pathology in our culture, that these persons may simply be reflecting their own cultures. She believes therapists must be culturally sensitive to avoid interventions which may be harmful to these

individuals. In their cultures autonomy cuts the self off from the community, resulting in isolation and loneliness (Shweder & Bourne, 1982). Relinquishing primary control leads to a sense of purpose, meaning, belonging and security in their families and communities.

Earle (1986) applied the two process model to understanding the functioning of entire nations. The prevailing strategy among nations has been to increase their power with regard to potential adversaries. As each side develops more advanced technologies, which eventually become available to even less stable third parties, the peoples of those nations, whose own needs for control have been thwarted, resist the actions of the politicians. Vietnam, the oil embargo, and the Iranian hostage crisis of the 1970s (cf. Yankelovich, 1982) seriously impaired America's potency, leaving us doubtful of our ability to exercise significant primary control in the international arena. This had real consequences for domestic political priorities and foreign policy actions. The countries of the former Soviet block have more recently had their own problems with their ability to exercise primary control. Earle explains that, as a result, the politicians began to depend heavily on interpretive control in the form of "rigidly ideological beliefs about the nature of the 'other side' and the necessity of continued struggle" (p. 372). This allows the politicians to reduce their differences down to a struggle of "good" against "evil", thereby maintaining a sense of order and predictability. Earle states that this guarantees that the cycle will repeat itself and that foreign policy will continue to be based on illusion and erroneous judgment. When the people of a nation lose trust in their leaders, they will struggle to regain control over those decisions and experiences which affect them and their loved ones. Nations must, at some point, discontinue conceiving of control as a subject-object relationship, in which the strongest nations are allowed to exercise primary control over an "object"

(e.g., land, resources, subject populations). Instead power could be considered in the context of a subject-subject relationship based on knowledge rather than illusion, "a dynamic system in which control needs are realized by the exercise of mutual influence" (Earle, 1986, p. 374).

Earle (1986) writes that, "In personal relations, 'success' requires a more subtle appreciation of the ability to attain control by giving up control – i. e., by contributing to the well-being of the other in ways that will reciprocally enhance both oneself and the relationship" (p. 374).

Earle seems to be advocating that we might have something to learn from the other cultures mentioned in this chapter. Control strategies in international relations, however, have been firmly rooted in the Western business model which has had, not surprisingly, similar problems. Rather than the communal nature of business favored by the Japanese, in the United States the worker-management relationship is viewed as adversarial (Kanungo, 1992). Individuals within the organization are separate, autonomous and independent of one another in a win-lose battle for available resources.

In a paper on the experience of powerlessness in organizations, Ashforth (1989) writes that the usual managerial response to employee disruption, apathy or alienation is to fortify the system of control. Ashforth contends that it is precisely because of the employees' perceptions of lack of control or autonomy that much of this behavior occurs. He recommends less control over these individuals instead of more:

> Unfortunately, it is the irony of control systems that they tend to be self-validating: Compliance justifies the existing controls; noncompliance justifies their extension. This circularity, of course, gives rise to a vicious circle of ever-increasing control and deviance. (p. 235)

Kanungo (1992) recommends that managers begin to see themselves as a "connected self," "part of an enduring relationship with a sense of community" (p.

421) rather than isolated individuals interested in their own rights with regard to their workers. This is necessary because when people perceive that their opportunities for control have been blocked by their organizations, they will generally attempt to reestablish that control. They may attempt direct primary control strategies such as confronting the source of the problem or indirect primary control by decreasing productivity (Greenberger and Strasser, 1986). If these methods fail, they may also attempt to reduce ambiguity by exercising predictive secondary control. Greenberger and Strasser (1986) note the following:

> Secondary or indirect strategies (even when perceived nonveridically) are particularly important in the organizational setting since control seekers so frequently perceive themselves as unable to control outcomes directly. For example, the denial of requests (increase in compensation, additional staff) is most common in organizations. Short of helplessness, employees are forced to rely on these secondary approaches to achieve some semblance of control homeostasis. (p. 172-173)

It should be clear from this chapter that individuals who want control will find a way to get it. Patients make use of various types of secondary control even when they must do so covertly. The emphasis on primary control found in Western cultures is very different from other cultures which value and utilize secondary control to a much greater extent. The next chapter will include areas for future research on the two process model as well as applications for the concept.

CHAPTER FIVE

CONCLUSIONS

This paper has been an attempt to bring together what is known at this time about Rothbaum, Weisz, and Snyder's (1982) two-process theory of primary and secondary control. It should be apparent now that this is a concept worthy of continued and vigorous study. Nevertheless, the discovery of the importance of this concept should in no way discredit other control theories which have added immensely to our understanding of how people behaviorally and cognitively respond to their world. Chapter Two demonstrates that, lacking an overarching theory of control processes, it appears that the two process model is often necessary to explain inconsistencies in studies of other theories. In response to an article by Weisz (1990) on the two process model, Rosenberg (1990) states the following:

> One of the most impressive features of Weisz' research on the beliefs, goals and styles of control is that it successfully integrates a broad range of concepts – locus of control, self-efficacy, learned helplessness, mastery, powerlessness, and so on – that have often been treated separately in the literature. (p. 147)

Many would say that this concept is not well enough defined, that its research has not been done with enough precision. This problem will not be easily overcome. Macnamara, Govitrikar and Doan (1988) submit that it may be unworkable to distinguish any causal laws in psychology that entail reference to a person's beliefs and desires. It may be a very long time before our ability is sufficient to design experiments to determine the composition of what Quine and Ullian (1978) call our "web of belief." These authors suggest that our beliefs are all connected, interwoven

strands will not reveal the intricate beauty or complexity of the structure, and altering one or two strands without a knowledge of what may be maintaining them will not substantially alter the web. Mark Twain, a common-sense psychologist, describes the difficulty of knowing another's mind in the following:

> What a wee little part of a person's life are his acts and his words! His real life is led in his head, and is known to none but himself. All day long, the mill of his brain is grinding, and his thoughts, not those other things, are his history. These are his life, and they are not written, and cannot be written. Every day would make a whole book of 80,000 words – 365 books a year. Biographies are but the clothes and buttons of the man – the biography of the man himself cannot be written.

Given the difficulty of ultimately fully understanding and being able to predict when and how persons can and should attempt primary or secondary control (which may be our need as researchers for interpretive and predictive control), how might we go about the seemingly impossible? Thompson and Spacapan (1991) provide something of a roadmap:

> Guiding questions for any project should include the following: What aspect of control – contingency or competence – is most relevant to the area under study? Are measures of both global and specific aspects of control included, and of primary and secondary control? How do the various dimensions of control interact to affect outcomes? (p. 11)

It should not be surprising that Weisz (personal communication) has stated that there are many more secondary control strategies that have not been labeled as such. For example, Thompson (1985), in studying, immediately and after one year, people whose homes were damaged in a fire, found five ways of focusing on the positive in the face of an uncontrollable aversive event: finding side benefits, making social comparisons, imagining worse situations, forgetting the negative, and redefining. She found these cognitions to be fairly stable after a year. Those victims who did not use the above secondary control strategies were devastated by the fire and remained so for the year following. Those who did use them reported fewer symptoms and better

coping. Individuals who focused on the positive tended to use all five categories, further illustrating the complexity of the web of belief metaphor.

Adaptive and Maladaptive Uses of the Model

Rothbaum, Weisz and Snyder (1982) define adaptiveness in terms of the relative levels of primary and secondary control, with the ideal balance or sequence of primary and secondary control varying from situation to situation. Much more work could be done to study the two process model in different situations and balances. More work like Thompson's needs to be done to determine whether secondary control beliefs change over time in field settings where the events have real consequence for people's lives. Interviews appear to be the best way to get at people's goals and intents for their control choices, but Schulman, Castellon, and Seligman's (1989) Content Analysis of Verbatim Explanations (CAVE) technique also shows substantial promise.

Peterson & Bossio (1991) describe unpublished studies done with J. Bryce, N. Kirsch & K. Lachman. In the first study, using CAVEing, they examined the first-person narratives of former American slaves who told their stories to interviewers during the 1930s (Yetman, 1970). The experimenters found that the subjects who had survived through slavery, with its loss of personal control, into old age, relied to a great extent on secondary control processes. The second study CAVEed the written interviews of a group of mothers struggling to raise their families in the stresses of contemporary war-torn Beirut (Bryce, 1986). Both the slaves and the mothers in Beirut used more secondary control strategies than two samples of contemporary Americans.

Besides control over negative events, Bryant (1989) advocates studying judgments of primary and secondary control in relation to positive events. He crossed

primary-secondary control with positive-negative experience and developed a four-factor model of perceived control consisting of self-evaluations of one's ability to:

> (a) avoid negative events (primary-negative control) through primary control; (b) cope with negative events (secondary-negative control); (c) obtain positive events (primary-positive control); and (d) savor positive events (secondary-positive control). (p. 775)

This four-factor model distinguished between perceived primary control (over events) and perceived secondary control (over feelings) separately in relation to positive and negative experiences. Bryant states that his model explains people's self-evaluations of control better than other conceptual models, and was fairly accurate in predicting levels of subjective well-being and distress.

Chapter Four indicates that health care appears to be the most fruitful area for application and future research at this time. Given the large numbers of patients who covertly utilize alternative health care (Montbriand & Laing, 1991), it is clear that we are not as trusting of the physician's ability to heal us as we once were. Doan and Gray (1992) call the cancer patient who adopts a proactive stance toward his illness (e.g., using imagery as in the Simontons' (1978) *Getting Well Again,* or expressive, intuitive techniques from Bernie Siegel's (1986) *Love, Medicine and Miracles* or (1989) *Peace, Love and Healing*) the Heroic Cancer Patient. These patients appear to feel better and be better adjusted (Derogatis, 1986, Seeman & Seeman, 1983, Taylor, 1983), although there is only equivocal evidence that these techniques can prevent or halt cancer (see Cunningham, 1985; Fox, 1983; Spiegel, Bloom & Kraemer, 1989). Doan and Gray voice concern that some patients who adopt the heroic stance are even more shattered than they would have been if their illness recurs or if they are not able to halt its progress. These authors posit that illusion may be preferable when the future is uncertain, as in cancers with unpredictable courses. At these times, the heroic stance towards cancer could provide many patients with "security, a sense of personal

control, and a way of enduring hardships associated with the illness and its treatment" (p. 263).

Taylor et al. (1991) contend that trusting physicians to heal us may be adaptive as long as symptoms are not severe. With more serious conditions, belief in vicarious control becomes less adaptive. Trillin (1981), a cancer patient herself, has this to say:

> So, once we have recognized the limitations of the magic of doctors and medicine, where are we? We have to turn to our own magic, to our ability to "control" our bodies. For people who don't have cancer, this often takes the form of jogging and exotic diets and transcendental meditation. For people who have cancer, it takes the form of conscious development of the will to live. (p. 700)

Taylor et al. (1991) submit that it is important for professionals to support the patient's perception of control and autonomy while at the same time encouraging her to prepare for all eventualities. These authors state that:

> It will be important for future research to explore the boundaries of both personal and vicarious control, and for future work to illuminate more fully the circumstances under which each form of control may contribute to or detract from psychological adjustment. (p.107)

It is difficult to conceive of areas where an understanding of the two process model would not be helpful. At the Chicago Blues Festival one year a blind musician listening to another performer shouted with joy, "I knew that was going to happen! I knew that was going to happen!" To him, being able to predict the notes was his measure of mastery. From there, it is a short distance to literary criticism, management training, race relations, and even sports. Reser & Scherl (1988) discuss flow experiences, which happen at times during physical competitions or wilderness outings, as being typified by an awareness of being "a distinct yet integral part of the ongoing transaction, and a sense of oneness with what one is doing" (p. 272). This language sounds very much like descriptions of the Japanese culture in the previous chapter. The authors continue with the following:

The quality of feedback and consequent sense of oneness-with-activity found in flow situations allows for self-control options relating to emotional response (Lazarus and Folkman, 1984), and predictive and interpretive control (Rothbaum et al., 1982).

Mental Health Applications

In mental health, the two process model gives practitioners a tool to use with many different populations. White & Janson (1986) suggest that interventions with those who are institutionalized in highly constraining environments, such as those mentioned in Chapter Three, not focus on ways of enhancing primary control, which is seriously limited, but secondary control, which would be more realistic in the situation. Rothbaum et al. (1982) suggest that it might be useful to match therapeutic methods to clients along the primary and secondary control dimensions.

Taylor and Brown (1988) challenge the traditional notion that therapy involves helping the client view himself and his circumstances more realistically. Positive illusions of control are both functional and adaptive according to them, especially in aversive circumstances. Doan and Gray (1992) prefer working toward an optimal balance of illusion and reality, but admit that knowing where that balance is from moment to moment will be challenging.

Considering that people will go to extreme lengths to retain some semblance of control over their lives, it behooves therapists to understand all they can about those processes. Rezek & Leary (1991) note that "individuals with anorexic tendencies react to low perceived control by restricting food intake as a means of regaining a sense of control" (p. 129), because eating is one of the few things in their lives that others cannot control (Bruch, 1978). The self-restricted eating is a form of "displaced reactance" which substitutes for a lack of control in other areas of the individual's life. The authors propose that anorexia may be a kind of secondary control. Other mental

health concerns which have been studied embracing the two process model as a factor include schizophrenia in Switzerland (Dauwalder, 1988), nightmares (Cook, Caplan & Wolowitz, 1990), dread rumors (Walker & Blaine, 1991) and bereavement (Wortman and Silver, 1989).

Much more could be learned about how other cultures view primary and secondary control. We may find that we are the culture which values secondary control strategies the least! A good beginning is being made by Trommsdorff (1991) who studied German mothers to determine if those who were more empathetic with their children would have children with higher empathy. She states that:

> Especially the mother's effort to experience vicariously the child's needs - an essential aspect of secondary (in contrast to primary) control orientation seems to be an important factor in the development of empathy. Therefore, we are presently studying the effects of growing up with a belief system of primary vs. secondary control orientation in different cultures. (p. 390)

In studying instruction in universities, Perry & Penner (1990) found that expressive instructors elicit selective attention. They also advocate well-organized lectures in which predictive secondary control would presumably be easier to attempt.

Future Research

More work on understanding the development of primary and secondary control processes through the life span and gender differences in the use of the model would seem to be warranted. Individual as well as group differences in primary and secondary control use will surely produce interesting data. For instance, Heath (1986) noted that her sample of incarcerated criminals showed a preference for and belief in their ability to exercise primary control despite their confinement. Further research should distinguish between control by powerful others who are concerned with one's welfare as compared to those who are not, such as prison guards or political dictators.

To summarize, much more research needs to be done on primary and secondary control in several areas. There are several more secondary control strategies to name and define. It seems clear that individuals use both primary and secondary control strategies in a myriad of adaptive and maladaptive ways, many of which have been discussed above. The use of primary and secondary control strategies do change with development, across cultures, and to a much lesser extent by gender. Research on this rich concept, as on any belief, will be difficult and less precise than we might like; however there appears to be little doubt that the two process model is an important concept which deserves a central role in any study of control theory.

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THESIS APPROVAL SHEET

The thesis *Primary and Secondary Control: A Study of the Two Process Theory, Its Context and Applications* had been read and approved by the following committee:

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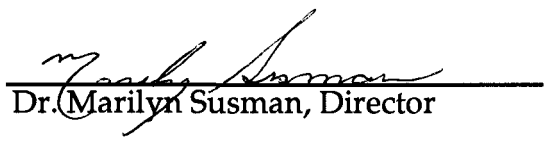
The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the Committee with reference to content and form.

The thesis is, therefore, accepted in partial fulfillment of the requirements for the degree of Master of Arts.



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