THE RELATIONSHIP BETWEEN HARDINESS AND RESPONSES TO LIFE EVENTS IN ADULTHOOD

THESIS

Presented to the Graduate Council of the University of North Texas in Partial Fulfillment of the Requirements

For the Degree of

MASTER OF SCIENCE

By

Barbara Crowley, B.A.
Denton, Texas
December, 1997

The relationship between psychological hardiness and individuals' coping with two life events, involuntary job loss and post-parental launching of adolescent children, was investigated in a sample of 146 adults, 83 of which had experienced job loss and 61 of which had experienced the empty nest. Volunteers completed questionnaires which measured hardiness, distress, coping strategies, neuroticism, and extraversion. Multivariate analyses were performed, both with and without covariates, for overall hardiness as well as the hardiness subscales of control, commitment, and challenge. Significant hardiness by life event interactions on escape-avoidance coping were found in both sets of analyses. Main effects for hardiness, however, disappeared when controls for neuroticism and extraversion were utilized. Findings underscore the necessity of employing neuroticism controls in future hardiness research.
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CHAPTER I

INTRODUCTION

Since the inception of the "medicine man," humans have turned to those deemed more knowledgeable in order to cure their ills. In modern cultures, people usually see a physician when they become sick and hope that a remedy will be provided. Over the past 20 years, however, there has been a growing interest in the connection between mind, body, and illness, which is slowly changing the role of traditional medicine (Pelletier, 1977; Sperry, 1992). Researchers are discovering that the way we think exerts more control over our physical well-being than was previously believed. Biofeedback (Gauthier, Côte, & French, 1994) and meditation (Glaser, Brind, Vogelman, Eisner, Dillbeck, Wallace, Chopra, & Orentreich, 1992; Sudsuang, Chentanez, & Veluvan, 1991) are examples of two areas currently being investigated for the positive effects thought processes can have on our body.

Stress and Illness

Research has also shown that our thought processes are affected by stressful experiences. Stress is a concept that involves the interaction between an individual and challenges in the environment. Stress is often associated with negative influences on physical health (Benson, 1975;
Trumbull & Appley, 1986). Studies have found possible links between an individual's habitual stress and the occurrence of such physical ailments as coronary artery disease, hypertension, rheumatoid arthritis, and even cancer (Eysenck, 1988; McFarlane, Kalucy, & Brooks, 1987; Mellors, Boyle, & Roberts, 1994; Rozanski et al. 1988). Researchers have also suggested a link between illness and the experience of a life event that causes change and readjustment in a person's average routine (Brown & McGill, 1989; Dohrenwend & Dohrenwend, 1974; Garrity, Marx, & Somes, 1978). Though the above-mentioned studies tend to support the stress/illness relationship, some researchers have expressed concern regarding contamination of results by neuroticism, current physical health, and respondent's subjectivity. Maddi, Bartone, and Puccetti (1987) controlled for such contamination and still found a low to moderate correlation between stressful life events and concurrent illness scores. The authors also offered a rebuttal to researchers who have conceptual stress/illness issues regarding retrospective studies, self-report measures, and resistance to illness models.

**Possible Moderating Variables**

Other stress/illness studies have also shown consistent but small correlations (Rabkin & Struening, 1976). An explanation for such relationships is the noticeable fact that not everyone who experiences a stressful life event
falls ill. This observation led Antonovsky (1979) to inquire what it is about some people that enable them to remain healthy. He attempted to answer this question by broadening the concept of stress to include resistance resources. These resources may serve to buffer an individual against the deleterious effects of high degrees of stress. Stress resistance researchers have empirically identified potential moderators. Among these are physiological strengths, social support, exercise, coping strategies, and personality (Roth, Wiebe, Fillingim, & Shay, 1989; Taylor & Cooper, 1989).

A well-functioning immune system (Dorian & Garfinkel, 1987; Geiser, 1989; Marshall, 1977) and a family medical history that shows no evidence of genetically linked diseases, (Kobasa, Maddi, & Courington, 1981; Weiner, 1977) both contribute to physiological strengths which can moderate the illness effects of stress. A number of studies also have implicated social support as a stress moderator. This moderator has most often been characterized as the amount of physical and psychological support provided to an individual in times of distress by spouse, family, friends, neighbors, co-workers, and community members (Cohen & Wills, 1985; Lin, Simeone, Ensel, & Kuo, 1979). The use of exercise as a method for stress reduction is another moderating variable shown to be a protector of health, particularly in decreasing the risk of cardiovascular disorders (Berger, Friedmann, & Eaton, 1988; Dubbert, Rappaport, & Martin,
1987). How a person cognitively copes with stress may play an important role in keeping a person healthy. For example, strong evidence exists which supports the hypothesis that avoidance strategies may be more effective than approach strategies, especially when the result of any action taken might be immediate and when the situation is assessed as uncontrollable (Manne & Sandler, 1984; Roth & Cohen, 1986).

**The Hardy Personality Construct**

Maddi and Kobasa (1984) believe that the foundation of an individual's ability to successfully cope with stress and remain healthy is a personality style, which they term "hardy." An individual who is psychologically hardy has a different view of themselves and the world. According to Kobasa (1979), hardy individuals possess high levels of three psychological characteristics: control, commitment, and challenge. These characteristics are thought to influence cognitive appraisal and behavior in response to stressful events. Cognitively, they may influence the perception of an event and any meaning attached to it; behaviorally they may serve to influence the response to an event.

**Control, commitment, and challenge.** Kobasa (1979) described "control" as the strong belief by an individual that he or she can exert an influence on their surroundings as opposed to the belief that their efforts have no effect. These people feel they have the power to turn an unfortunate
situation into an advantageous one. On the other hand, people who perceive themselves as powerless feel they are held hostage to events which are out of their control. "Commitment" is represented as an individual's full engagement in activities and giving these activities his/her best effort, rather than exhibiting alienation toward work and life. Strongly committed people have a generalized sense of purpose and self-understanding, which allows them to uncover meaning in who they are and the value of whatever activity they are engaged in. These people seem to perform in a cheerful and effortless manner. Alienated people, however, appear bored yet exhausted. They find little meaning in their life and refrain from involving themselves in either their work or leisure time. Finally, "challenge" is defined as the belief that change, rather than stability, is a characteristic of life. This type of person anticipates change as affording them an opportunity for further development. In contrast, people who feel it is natural for things to remain stable are threatened by change and see it as a disruption to their comfort and security.

Hardiness research. The initial research study by Kobasa (1979) examined illness onset in middle and upper level executives, who had experienced high degrees of stressful life events. She found that high stress/low illness executives score significantly higher on hardiness characteristics than high stress/high illness executives. A
number of subsequent retrospective and prospective studies have reliably shown that high-hardy individuals report lower levels of physical symptoms than do low-hardy individuals (Banks & Gannon, 1988; Bartone, Ursano, Wright, & Ingraham, 1989; Kobasa et al., 1981; Kobasa, Maddi, & Kahn, 1982; Kobasa, Maddi, & Puccetti, 1982; Kobasa, Maddi, & Zola, 1983; Kobasa, Maddi, Puccetti, & Zola, 1985; Kobasa & Puccetti, 1983; Rhodewalt & Zone, 1989).

Interested researchers began examining hardiness as a major buffer against stress-related disorders, as well as, the question of whether hardiness combines with other resistance resources in fighting illness (Wiebe & Williams, 1992). One possible combination is constitutional predisposition (family history of illness and/or disease) and hardiness. Kobasa, Maddi, and Courington (1981) were able to show that during stressful life events certain constitutional predispositions may maximize the chances of becoming ill, but a hardy personality may buffer against debilitating effects. Another combination is the influence hardiness may have on the way an individual appraises a stressful situation. High-hardy individuals have been found to rate certain stressful life events as more positive and controllable which, in turn, has been associated with less reports of physical illness symptoms (Rhodewalt & Zone, 1989; Wiebe, 1991).
Hardiness has also been hypothesized to buffer against stressful events by influencing the type of coping strategy an individual chooses to employ. This influence is illustrated by correlational data which suggests high-hardy individuals select coping strategies which are more active and problem-focused (Nowack, 1989), while those who are low-hardy tend to avoid and deny (Williams, Wiebe, & Smith, 1992). Williams et. al (1992) additionally found that these adaptive coping strategies mediated self-reported illness symptoms. The above mentioned studies indicate that the hardy individual's use of optimistic cognitive appraisals and adaptive coping strategies will transform stressful events into less stressful forms.

Another area under investigation has been the interactive effects of hardiness and exercise. Kobasa et al., (1982) found that individuals who score high in both hardiness and exercise remain more healthy after experiencing stressful events than those individuals scoring high in either one measure or the other. It appears that, although exercise may relieve the organismic strain produced by stressful events, it does not alter the event itself. Therefore, hardiness emerges as a more important and longer lasting resistance resource (Kobasa et al., 1985).

Hardiness may also interact with psychophysiological arousal as shown in a study conducted by Contrada (1989). He found that, when high-hardy males were asked to perform a
difficult mirror-tracing task, they displayed smaller diastolic blood pressure responses than did low-hardy males. Wiebe (1991) investigated heart rate in high and low hardy individuals. Her results indicated that high-hardy men responded to a stressor with smaller increases in heart rate than did low-hardy men. However, heart rate responses were not influenced by hardiness in female subjects. Other studies have revealed findings that are inconsistent with these results. Allred and Smith (1989), for example, found hardiness to be associated with increased levels of systolic blood pressure. The authors suggest this finding could also be interpreted as consistent with the hardiness model, in that the enhanced reactivity may reflect adaptive, effortful coping rather than distress.

A behavioral style which usually produces maladaptive coping, as well as greater chance of coronary heart disease, is the Type A personality. Since hardiness appears to aid in moderating stressful events and thereby preserving general health, it was conceptualized that these two personality orientations would be independent. Kobasa et al. (1983) confirmed that high stress/low hardy/high Type A individuals show greater general health deterioration than high stress/high hardy/low Type A individuals.

Finally, research conducted on the association between social support and hardiness uncovered a relationship that is less clear. Kobasa and Puccetti (1983) found that
hardiness was related to the support an individual received from their boss, but was not related to family support or social assets. The relation and relative importance of social support, hardiness, and stressful life events in predicting depression among college women was investigated by Ganellen and Blaney (1984). They reported that the commitment and challenge dimensions of hardiness were significantly correlated with social support, but the control dimension was not. Schmied and Lawler (1986) found just the powerlessness scale of the control dimension to be related to illness in a Type A behavior study.

Critique of Hardiness

Hardiness construct. The occurrence of such significant interactive effects for only individual components within the hardiness composite has caused some researchers to question Kobasa's (1979) position that hardiness is a single construct (Carver, 1989; Hull, Lehn, & Tedlie, 1991; Hull, Van Treuren, & Virnelli, 1987). After reviewing the literature, Hull et al., (1987) reported that hardiness should be treated as a set of three independent dimensions. Of these dimensions, only commitment and control were considered to be psychometrically sound and consistently related to health outcomes, whereas the challenge dimension appeared to have negligible effects. Carver (1989) argued that when a construct is multidimensional, each of its components must be examined
separately in order to determine the different ways they may exert their effects.

Along with questioning whether hardiness is a unitary or multidimensional concept, major criticisms of the construct have included: a) the way hardiness is measured and treated statistically, b) potential overlap between hardiness and neuroticism, c) the relationship of hardiness to health, and d) predominant use of male samples in validation studies (Hull et al., 1987; Parkes & Rendall, 1988; Schmied & Lawler, 1986; Wiebe, 1991).

Measurement of hardiness. Research on hardiness has proven difficult to summarize for a number of reasons. The Hardiness Scale itself is composed of different subscales taken from other scales or tests. Some investigators chose to rearrange or replace the combination of these scales which reduced consistency across studies. Additionally, there is a lack of conformity in hardiness data analyses. Results may vary depending on whether the researcher used overall hardiness scores or scores from each hardiness component (Funk & Houston, 1987; Ganellen & Blaney, 1984; Hull et al., 1987).

There is also the issue of how hardiness scores should be statistically treated. Carver (1989) proposed continued investigation of the interactions among the three hardiness components (control, commitment, and challenge) and their effects on physical health. The type of statistic used in
analyzing these components and overall hardiness has also been examined. Although, most of the hardiness studies used analysis of variance or covariance, which required continuous variables such as hardiness or stress to be categorized, it seems that multiple regression techniques might be more suitable. This would be particularly important when the variables correlated to hardiness, such as stress and social support, are used as independent variables (Funk & Houston, 1987).

**Negative indicators.** Funk and Houston (1987) examined the use of negative indicators on the original hardiness scale (i.e., high scores indicate lack of hardiness). Their findings suggested that these indices may tap general maladjustment, or neuroticism, instead of hardiness. This overlap may have had an effect on the results of some previous hardiness studies. Most of these studies used the original hardiness scale and allowed subjects to self-report illness. Using these measures, significant correlations were found between hardiness and trait anxiety (Allred & Smith, 1989), depression (Rhodewalt & Zone, 1989), and extraversion and neuroticism (Parkes & Rendall, 1988). However, when neuroticism was covaried it eliminated previously significant correlations between hardiness and self-reported illness in certain studies (Funk & Houston, 1987; Rhodewalt & Zone, 1989). These findings indicate that potential overlap between hardiness and neuroticism may cause the
hardiness scale to be related to decreased self-reported illness than to lower actual illness.

**Hardiness as a buffer.** The relationship of hardiness to health is another question pursued by researchers in the literature. Some studies have indicated that hardiness may not operate as a buffer between high stress and illness, but rather promotes health independently of stress (Funk & Houston, 1987; Hull et al., 1987; Nagy & Nix, 1989). These authors cite use of retrospective designs, illness as a dependent variable, and the fact that early studies reported analyses on the same data set as the primary problems in identifying hardiness as a stress-illness buffer (see Kobasa, 1993 for a clarification of sampling techniques).

**Male samples.** In addition to using the same data set, researchers note that the early validation studies also relied entirely on male samples (Schmied & Lawler, 1986; Wiebe, 1991). There has been relatively little investigation of female subjects in previous studies, and, when they are included, the results appear inconsistent (Rhodewalt & Zone, 1989; Schmied & Lawler, 1986; Wiebe, 1991). Wiebe (1991) suggests that the current hardiness scale may not be an adequate measure of the hardiness construct among women. This inadequacy may be attributable to measuring characteristics which are effective against work or achievement-oriented stressors, but are ineffective against social domain stressors.
**Lifespan Perspective**

Although some researchers are still debating these limitations, the hardy personality construct continues to be investigated as a moderator between life event stress and related illnesses. The lifespan perspective regards life events as developmental occurrences which most, but not all, individuals will experience. Reese and Smyer (1983) hold that life events are either anticipated or totally unexpected and that, although most research has focused on negative events (death of spouse or natural disasters), certain life events can also be considered positive transitions. All life events can be conceptualized as an opportunity to develop preventative strategies and promote practical interventions (Danish, Smyer, & Nowak, 1980). In order to effectively inaugurate this approach, however, it is helpful to identify those stressful life events which may impact either physical or psychological well-being. Two such events that some adults experience are involuntary job loss and the launching of adolescents into adulthood (often referred to as the "empty nest").

**Involuntary Job Loss**

**Physical and psychological effects.** Job loss, generally considered a nonnormative or unplanned life event, refers to involuntary withdrawal from the work place because of layoffs, plant closures, firing, or other types of employment termination. This event has been characterized as
stressful for most individuals (Dohrenwend, Krasnoff, Askenasy, & Dohrenwend, 1978), a fact which prompted researchers to investigate the various effects unemployment may have on an individual's physical health and psychological well-being (Hagen, 1983; Hamilton, Hoffman, Broman, & Rauma, 1993; Kessler, Turner, & House, 1987; Leana & Feldman, 1988; Liem & Liem, 1988). Job loss stress has been found to promote biochemical changes, such as elevated urinary norepinephrine and epinephrine (hormones known to have immunomodulatory properties), in recently unemployed males (Cobb, 1974; Fleming, Baum, Reddy, & Gatchel, 1984). Unemployment has also been documented as significantly contributing to poor physical health, anxiety, and depression (Hamilton et al., 1993; Kessler, House, & Turner, 1987; Pearlin, Lieberman, Menaghan, & Mullan, 1981). Pre-existing chronic health impairments are also affected as afflicted individuals appear to undergo additional deterioration (Warr & Jackson, 1985). Repercussions due to unemployment may contribute to irresponsible behavior as Veneziano and Veneziano (1992) found that 40% of DWI (driving while intoxicated) offenders (n = 498) endorsed job loss as a psychosocial stressor within the last year.

**Factors surrounding the job loss.** There are several factors which must be taken into account when looking at such individual responses to involuntary job loss. Leana and Feldman (1988) suggest looking at the circumstances
surrounding the event, such as expected duration of unemployment, number of co-workers also terminated, layoff or firing, and past history of experienced layoffs. After reviewing studies on the mental health effects of job loss, Dew, Penkower, and Bromet (1991) concluded that age, social support from spouse and friends, recent financial and socioeconomic status are important individual differences to be considered when attempting to make causal inferences. When controlling for financial strain, for example, unemployed individuals who experienced job loss as the only stressful life event in the past year were in as good health as stably employed individuals (Kessler et al., 1987). In order to examine the possible relationship among selection bias, unemployment, and poor health, Kessler, House, and Turner (1987) classified two groups: individuals who were not at fault for losing their job and individuals who might have been instrumental in causing the job loss. The results documented that the health-damaging effects of unemployment could not be explained by selection bias.

Women and job loss. Based on the assumption that work roles for women are not as important as domestic roles, the research on involuntary job loss has typically focused on male populations. The ability to fall back on the traditional role of wife and mother has been assumed to lessen the trauma of job loss for women. However, Leana and Feldman (1991) suggest that women may be even more
vulnerable to negative effects of job loss due to statistical evidence that women have more difficulty replacing the job and income which they had valued. Their research uncovered no difference between men and women in the amount of psychological and behavioral distress they experienced following job loss. This study did find, as did Leana and Feldman (1988), that men tend to cope through problem-focused activities such as searching for a new job, whereas women used more symptom-focused coping such as talking to friends. Snyder and Nowak (1984) found that men and women also are equal in their experience with demoralization following job loss. When examining a cohort of only women, increased depressive symptoms were shown to be significantly associated with job loss (Dew, Bromet, & Penkower, 1992).

Results from a study by Starrin and Larsson (1987) categorized recently unemployed women into four groups, which showed some similarity to the hardiness construct. These groups were different in respect to: a) experience of the daily time structure; b) identity and mental health, and c) view of the future. "Give-uppers" and "clenchers" found unemployment to: 1) destroy their daily time structure, and 2) initiate feelings of hopelessness, loss of status, powerlessness, and depression. "Refocusers" and "ambivalents", on the other hand, were able to: 1) replace the loss of the fixed time structure associated with
employment with a new fixed time structure, and 2) continue to enjoy their lives and replace the lost work with meaningful activities.

"Empty nest" or Post-parental Launching of Adolescent Children

Early research on mothers. The "empty nest" is regarded as a normative or planned life event. Parents realize that children grow up and eventually leave home. Adolescence, and the ensuing fight over independence, serves as a signal for parents to prepare for their children's departure. Research has produced mixed results on how the "empty nest" affects parents psychologically and physically. Most investigations have concentrated on what impact this life event has on mothers, based on the greater amount of time and effort they generally put into childrearing compared to fathers. Early studies focused on the belief that this was an unhappy time for women, one that was commonly associated with depression, identity crises, confusion, and a lowered sense of well-being after children left the parental home (Spence & Lonner, 1971). Curlee (1969) interviewed 100 women, 21 of which traced the onset of alcoholism to the departure of their last child. These women had built their lives around the role of being someone's wife or mother and the stress of dealing with such a void was being met with alcohol.
Current research on mothers. However, current research is discovering that women are not as unhappy after launching their children as was previously assumed. Radloff (1980) found that "empty nest" women were less depressed, regardless of whether they were "only" housewives or also employed outside the home. The findings also indicated less depression for employed men during the postparental period. Glenn (1975) found women who had recently launched adolescent children experience greater happiness, enjoyment of life, and marital contentment than women who have a child living at home. However, he cautions that the positive effects of the "empty nest" may not hold true for single or widowed mothers, since the data he collected were from women living with a husband or some other adult.

Cohort and employment status has also been shown to be related to how the "empty nest" experience affects women's well-being. Women whose young adulthoods coincided with World War II and were currently employed regarded the postparental period as a positive event (Adelmann, Antonucci, Crohan, & Coleman, 1989). Raup and Myers (1989) have suggested that mothers' employment status is an important factor affecting their adjustment to the postparental period. However, in order to understand how employment contributes to the overall adjustment of an "empty nest" mother, variables such as level of occupation,
opportunity for advancement, degree of power, degree of commitment, and tokenism should be considered.

Harkins (1978) examined mother's psychological and physical well-being following the "empty nest" transition but argued that prior research had three limitations. First, she believed it was more appropriate to search for effects a year or two after the event. Second, she felt that mothers' well-being should be observed following what they defined as "leaving." Finally, she suggests studying women for whom this transition might be most distressing, such as those with a more traditional view of women's roles or those whose are "off-time" according to age or lifespan norms. Integrating these three suggestions into her study, Harkins found: 1) a positive effect on psychological well-being but no physical health effects, 2) the effects on well-being were small and basically disappeared two years after the event, and 3) adverse effects are apparent if the "empty nest" event is off-schedule.

Research on mothers and fathers. Research involving both mothers and fathers during the postparental period have found improvements in the quality of marital relationships and general life satisfaction, particularly if teenagers, not older children, were recently launched or if these launched children remain in frequent contact (Deutscher, 1964; White & Edwards, 1990). White and Edwards (1990) also found these positive effects are strongest shortly after the
children leave, which is similar to the findings of Harkins (1978).

Some interesting observations can be made about "empty nest" research, which are worth noting. For example, Holmes and Rahe (1967) suggest that any role change, be it an addition or deletion, will produce negative effects on an individual's psychological and physical well-being. However, most studies had outcomes which indicated positive effects on psychological well-being. There also appears to be little research done on how the postparental period impacts a parent's physical health. Finally, it seems that, although fathers have been included in the measurement of marital satisfaction, they are rarely looked at individually.

Considering the changing face of today's nuclear family, the "empty nest" may have an effect on custodial fathers.

Summary

To summarize, the past twenty years of stress/illness research documented a consistent, yet small, relationship between stressful life events and physical and psychological illness symptoms. It has been further noted that not all individuals fall ill after experiencing high degrees of stress. Several variables have been considered as possible moderators against the deleterious effects of stress. These include physiological strengths, social support, exercise, coping strategies, and personality. In the present study, the hardy personality construct will be investigated.
The relationship between hardiness and physical illness symptoms has, for the most part, been empirically supported in the literature. However, while the moderating effects of hardiness on stress/illness show significant relationships with psychological outcomes, these effects are not as strong for physical outcomes. Researchers have also looked at the interactive effects of hardiness and other variables which might affect illness outcomes. A number of criticisms have been aimed at the construct of hardiness itself and the manner in which it has been measured, analyzed, and interpreted.

Life events can be regarded as developmental occurrences which most individuals experience. Some life events are considered as positive transitions, while others have a more negative connotation. Two such events are involuntary job loss and post-parental launching of adolescent children. Research indicates that job loss negatively impacts individuals both physically and psychologically. Conversely, results from current research on post-parental transition suggests the impact felt by empty nest parents follows a more positive trend.

**Purpose and Hypothesis**

Based on the above research, the purpose of the current study was to examine whether hardiness could moderate stress experienced by individuals who underwent either involuntary job loss or post-parental launching of adolescent children
and thereby inhibit distress. A thorough search of the existing literature on hardiness failed to produce any studies which isolated these two life events.

It was hypothesized that those assessed as high-hardy individuals would experience these transitional events more positively, in terms of; utilizing available support systems, no increase in distress, confrontative coping, less distancing, exhibiting self-control, seeking support, accepting responsibility, less use of escape-avoidance coping, employing planful problem solving, use of positive reappraisal, maintaining positive affect, no increase in negative affect, and remaining satisfied with life in general, than would individuals assessed as low-hardy.
CHAPTER II

METHOD

Participants

Using newspaper advertisements, university class announcements, support groups, and an employment agency, 146 volunteers who had either lost their jobs or experienced the departure of their youngest child within the last 24 months participated in the study. The initially proposed time criterion for the occurrence of either event was six months, however, due to the difficulty in obtaining subjects, time criterion was extended to twenty-four months. The definition for job loss was limited to loss of full-time employment due to lay-offs, resignations, and terminations, again within the previous two years. Empty nest definition began when the youngest child departed and was no longer residing in the parental home.

In the job loss sample, 83 participants (36 males and 47 females) met the criteria and completed the questionnaire. The majority of participants were Caucasian (90.4%), with 6% comprised of African-Americans. Persons in this category had an average age of 41 (M = 41.31, SD = 11.06), with an average of three years of college (M =
The current gross annual family income for the job loss sample ranged between $20,000 and $40,000, with the participants' reported gross family income from the previous year ranging between $30,000 and $50,000. While most of the participants were married (39.8% of the sample), 28.9% reported they were divorced, separated (8.4%), or single (21.7%). Subjects had an average of between one and two children and, during job loss transition, one to two children were residing at home. Participants in this sample had experienced job loss for an average of three months (SD = 3.14).

Of the 61 participants who were experiencing the departure of their youngest child from the parental home, there were 13 males and 48 females. Caucasians made up 95.1% of the empty nest sample, which was also comprised of 3.3% African-Americans. These participants had an average age of 49 years (M = 48.67, SD = 4.46), and an average education level of three years of college (M = 15.73, SD = 2.54). Full-time employment for an average of 10 years was reported by 68.9% of these individuals. In the empty nest study, the majority of participants were married (77%), while the remainder reported being divorced (18%) or widowed (4.9%). Additionally, subjects had an average of between two and three children. Participants in this sample had experienced an average of 8 months since the departure of their youngest child from the parental home (SD = 5.63).
Materials

The following demographic information was obtained: sex, age, race, employment or unemployment status and length, occupation, level of education completed, current family income, family income a year ago, whether or not father or mother are still living, marital status and length, number and ages of children, and date of departure of youngest child.

The independent variable consisted of high versus low hardiness. Other independent variables included involuntary job loss and departure of youngest child from the parental home. Dependent variables consisted of outcomes from various scales measuring psychological functioning, adjustment, affect, life satisfaction, and coping. Level of education, age, social desirability, and NEO (neuroticism and extraversion) were used as covariates.

Independent Variables

Hardiness was assessed by the Personal Views Survey (PVS) developed by Kobasa (personal communication, 1995). Hardiness was originally measured by using a combination of six other scales from a particular group of published test instruments. The PVS is a revised and shortened version consisting of 50 items which were found, through factor analysis, to be the most significant. The items included in this instrument have factor loadings of .30 or more. Control items explained 64 percent of the total variance score;
commitment items, 23 percent; and challenge items, 13 percent. The PVS has seventeen items which assess the control component, sixteen assessing commitment, and seventeen assessing challenge. This composite form shows a reliability (coefficient alpha) of .88 and correlates at .89 to the earlier, long version of the test. Norms for the PVS were on a sample of 1,409, consisting of 1,103 females. No significant difference was found between males and females.

Samples of items on the PVS include: "No matter how hard I try, my efforts will accomplish nothing," "I really look forward to my work," and "It bothers me when something unexpected interrupts my daily routine." Respondents indicate their level of agreement on a Likert-type scale from "not at all true" (0) to "completely true" (3). Generally, higher scores indicate higher levels of hardiness, although some items have reversed scoring.

Dependent Variables

Psychological functioning and physical illness were measured through the use of the Hopkins Symptom Checklist (HSCL; Derogatis, Lipman, Rickles, Uhlenhuth, & Covi, 1974). The HSCL is composed of 58 items, which reflect the kinds of psychological symptoms most frequently reported by individuals seeking outpatient counseling and therapy. The HSCL yields separate scores for five symptom scales identified as Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Anxiety, and Depression, as well
as a total symptom score. Previous factor analysis results support these five symptom scales. Internal consistency reliability estimates (coefficient alphas) for the scales ranged from .84 to .87 and test-retest reliability coefficients over a one-week interval ranged from .75 to .84 (Derogatis et al., 1974). Items on these scales are answered by rating the extent to which each symptom has bothered the respondent in the past 30 days. These ratings are based on a 4-point scale which ranges from not at all (1) to very frequently, much of the time (4).

The ratio of positive to negative affect was measured by the Affect Balance Scale (Bradburn, 1969). This scale consists of thirteen positive and negative affect items. According to George (1981), the scale measures more transitory aspects of emotion. George and Gwyther (1986) report internal consistency to be high, with an alpha of .89.

Coping behaviors were measured by The Ways of Coping Checklist (Folkman & Lazarus, 1986), which consists of 68 items describing a broad range of behavioral and cognitive strategies an individual might use in a specific stressful episode. The content of the items in this instrument are from the domain of defensive coping, such as escape-avoidance, isolation, intellectualization, suppression, information seeking, problem solving, palliation, inhibition of action, direct action, and magical thinking. Items which
are problem-focused describe cognitive problem solving
efforts and behavioral strategies for altering or managing
the source of the problem. Items which are emotion-focused
describe cognitive and behavior efforts at reducing or
managing emotional distress. The 68 items were divided by
the authors into two classifications with 27 items in the
problem-focused (P) category and 41 in the emotion-focused
(E) category. Several methods were used to evaluate this
measure for internal consistency. Inter-rater reliability
was high (91%) and, using Cronbach's alpha, the mean alpha
coefficient for the two administrations of the P scale was
.80 and for the E scale was .81. Although The Ways of Coping
Checklist utilizes a true/false format and was originally
constructed for use with a specific stressful event, the
instrument was modified in these two areas for the purposes
of this particular study. The true/false format was modified
to a four-point scale ranging from "does not apply and/or
not used" (0) to "used a great deal" (3).

The Life Satisfaction Index developed by Neugarten,
Havighurst, and Tobin (1961) and revised by Wood, Wylie, and
Sheafer (1969) was used to measure life satisfaction.
Global affective components, such as mood and positive self-
concept, are measured by this index. A validity coefficient
of .57 and a reliability coefficient of .79 have been
reported on the measure (Wylie, 1970).
The Inventory of Socially Supportive Behaviors (ISSB), an instrument which requires respondents to report how often they are recipients of supportive actions (Barrera, Sandler, & Ramsay, 1981), was used to measure social support in this study. Respondents to the 40-item inventory are asked to rate frequency of occurrences during the preceding month on a 5-point scale: 1 = not at all, 2 = once or twice, 3 = about once a week, 4 = several times a week, and 5 = about every day. Both test-retest and internal consistency reliability on the ISSB have been reported as adequate and a significant correlation was found with network size and perceived support of the family (Barrera et al., 1981).

Individual differences in personality traits were examined utilizing the NEO Personality Inventory (NEO-PI). This inventory was developed to measure the five basic traits, or domains, which consist of neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. There are 181 items on the questionnaire, which require a response based on a 5-point scale ranging from strongly disagree (1) to strongly agree (5). The five domain scales have internal consistency reliabilities ranging from .76 to .93. Convergent correlations for cross-observer validity have been cited for spouse-ratings (.53 to .60), peer-related ratings (.37 to .63), and interviewer ratings (.27 to .51) (Costa, 1991). Only the neuroticism and extraversion subscales were administered here, as such
measures are confounded with hardiness (Parkes & Rendall, 1988) and were used as covariates in this study.

Finally, social desirability (as a control for response bias) was measured by a short form of Crowne-Marlowe's (1966) Personal Reaction Inventory. This instrument consists of ten statements with which the respondent either agrees or disagrees. Scores can range from 10 to 20, with higher scores indicating high social desirability. The correlation between the short form and the total scale is .90 and Kuder-Richardson reliability coefficient for the short form is .70.

Procedure

Subjects were recruited from the Dallas-Fort Worth and Denton areas by the manner previously discussed. Respondents to the advertisements were given a brief verbal description of the project. A questionnaire packet including all of the measures mentioned above was sent to interested respondents that met the criteria for this study.

This packet contained an informed consent form, a cover letter explaining the purpose of the study and instructions for completing the questionnaire, the questionnaire itself, and a self-addressed stamped envelope for subjects to return the completed questionnaire. The informed consent form explained to respondents that: (a) participation in the study was voluntary, (b) subjects may drop out of the study at any time, (c) confidentiality of responses would be
maintained, (d) anonymity would be upheld, and (e) the study would investigate coping and adjustment with life events.

Statistical Analysis

Due to the unequal number of male and female subjects in the empty nest sample, it was not possible to evaluate the effects of gender and marital status. Hence, this investigation focused on two independent variables, hardiness and life event. Dependent variables were investigated using measures which assessed psychological and physical functioning (Hopkins Symptom Checklist and Affect Balance Scale scores), coping strategies (The Ways of Coping Checklist scores), satisfaction (Life Satisfaction Index scores), and social support (Inventory of Socially Supportive Behaviors scores). Covariates of neuroticism and extraversion (NEO-PI scores) and social desirability (Personal Reaction Inventory scores) were also included in the data analysis.

Based on Kobasa's (1979) hardy personality construct, a hardy individual possesses high levels of each of three psychological characteristics: control, commitment, and challenge. Because hardiness has been investigated using a scale measuring overall hardiness and/or examining each of the above mentioned subscales, statistical analyses in this study were performed using a high/low median split for overall hardiness and a high/low median split for each subscale. These analyses included a 2 (high versus low
hardiness) x 2 (life event-job loss versus empty nest) Multivariate Analysis of Variance (MANOVA), a 2 (high versus low control) x 2 (life event) MANOVA, a 2 (high versus low commitment) x 2 (life event) MANOVA, and a 2 (high versus low challenge x 2 (life event) MANOVA. Additionally, a series of 2(hardiness or subscale level) x 2 (life event) Multivariate Analyses of Covariance (MANCOVA) were performed on each of the above mentioned categories with level of education, age, social desirability, and NEO neuroticism and extraversion used as covariates.
CHAPTER III

RESULTS

Hardy Personality Construct without Covariates

Based on Kobasa's (1979) hardy personality construct, a 2 (high versus low hardiness) x 2 (life event-job loss versus empty nest) Multivariate Analysis of Variance (MANOVA) was performed. The cell size ranged from 24 to 45 subjects, with each cell averaging 35 subjects. The results from the overall hardiness procedure are summarized in Table 1 for the job loss sample and Table 2 for the empty nest sample. The 2 x 2 MANOVA results indicated a significant hardiness by event interaction, $F(13,126) = 1.84, p < .05$, as well as a main effect for life event, $F(13,126) = 5.02, p < .01$ and overall hardiness, $F(13,126) = 3.06, p < .01$. The significant multivariate interaction effect was specific to escape-avoidant coping style, $F(1,138) = 9.00, p < .01$. In the job loss sample, low-hardy individuals used escape-avoidant coping strategies significantly more often than high-hardy individuals did, whereas in the empty nest sample, the picture was reversed, $F(13, 126) = 3.86, p < .05$.

Univariate analyses regarding the main effect for life event suggested that individuals experiencing job loss
reported significantly more distress, $F(13,126) = 4.79$, $p < .05$, than individuals who were experiencing the empty nest transition. Furthermore, compared to empty nest parents, job loss individuals employed significantly higher levels of nearly all coping strategies, which included confrontation, $F(13, 126) = 7.24$, $p < .01$, distancing, $F(13, 126) = 10.79$, $p < .001$, self-control, $F(13, 126) = 27.70$, $p < .001$, seeking support, $F(13, 126) = 12.72$, $p < .001$, accepting responsibility for the situation, $F(13, 126) = 13.76$, $p < .001$, using an escape-avoidant approach, $F(13, 126) = 31.70$, $p < .001$, and planning techniques, $F(13, 126) = 9.82$, $p < .002$. Overall positive affect also differed between job loss individuals and empty nest parents in that empty nest parents experienced significantly more positive affect than job loss individuals, $F(13, 126) = 13.22$, $p < .001$. Finally, the analysis suggested that empty nest parents experience significantly more life satisfaction than job loss individuals, $F(13,126) = 5.29$, $p < .05$.

Univariate analyses regarding main effect for overall hardiness indicated that low-hardy individuals, in both the job loss and empty nest sample, experienced significantly more distress than high-hardy individuals, $F(13, 126) = 11.03$, $p < .001$. In both the job loss and empty nest sample, high-hardy individuals experienced significantly more positive affect, $F(13, 126) = 20.31$, $p < .001$, and life satisfaction, $F(13, 126) = 18.79$, $p < .001$, than low-hardy
individuals. The low-hardy individuals in both samples also reported significantly more negative affect, $F(13, 126) = 8.32, p < .01$, than their high-hardy counterparts.

**Hardy Personality Construct Using Covariates**

Employing the same data set, a 2 (high versus low hardiness) x 2 (life event-job loss versus empty nest) Multivariate Analysis of Covariance (MANCOVA) was performed using age, education, income, neuroticism, extraversion, and social desirability as covariates. The results from the overall hardiness procedure are presented in Table 3 for the job loss sample and in Table 4 for the empty nest sample. The 2 x 2 MANCOVA results indicated a significant interaction between hardiness and life event, $F(13, 112) = 1.89, p < .05$, as well as a significant main effect for life event, $F(13, 112) = 3.41, p < .01$. The significant multivariate interaction effect was specific to escape-avoidant coping style, $F(1, 124) = 11.31, p < .01$.

Univariate analyses regarding main effect for life event suggested that individuals experiencing empty nest utilized support systems significantly more than individuals experiencing job loss, $F(1, 124) = 4.98, p < .05$. However, in the job loss sample, individuals used other coping strategies significantly more often than did individuals in the empty nest sample. These strategies included: confrontation, $F(1, 124) = 6.92, p < .01$, distancing, $F(1, 124) = 5.77, p < .05$, self-control, $F(1, 124) = 17.20, p <$
.01, seeking support, $F(1, 124) = 10.13, p < .01$, accepting responsibility for the situation, $F(1, 124) = 6.40, p < .05$, using an escape-avoidance approach, $F(1, 124) = 19.47, p < .01$, and planning, $F(1, 124) = 5.40, p < .05$. Finally, the analyses indicated that empty nest parents have significantly more positive affect than job loss individuals, $F(1, 124) = 9.05, p < .01$.

The main effect for overall hardiness disappeared when the previously mentioned covariates were used in this particular analysis. However, post hoc univariate analysis revealed that high-hardy individuals had significantly more positive affect than low-hardy individuals in both the job loss and empty nest samples, $F(1, 124) = 4.22, p < .05$.

Hardy Personality Subscales without Covariates

Control. Again using the same data set, a 2 (high versus low control) x 2 (life event-job loss versus empty nest) Multivariate Analysis of Variance was performed. The results for the control subscale are presented in Table 5 for the job loss sample and Table 6 for the empty nest sample. Main effects were found for both life event, $F(13, 119) = 4.80, p < .001$ and control, $F(13, 119) = 2.28, p < .01$. Univariate analyses revealed that individuals experiencing job loss reported significantly more distress than did individuals experiencing the empty nest, $F(1, 131) = 5.03, p < .05$. Additionally, job loss individuals reported using coping strategies significantly more than did empty
These strategies included: confrontation, $F(1, 131) = 7.31, p < .01$, distancing, $F(1, 131) = 9.98, p < .01$, self-control, $F(1, 131) = 26.50, p < .001$, seeking support, $F(1, 131) = 11.26, p < .001$, accepting responsibility, $F(1, 131) = 12.61, p < .001$, using escape-avoidance, $F(1, 131) = 32.33, p < .001$, and planning, $F(1, 131) = 10.15, p < .01$. Finally, the analyses indicated that empty nest parents have significantly more positive affect, $F(1, 131) = 12.45, p < .001$ and life satisfaction, $F(1, 131) = 6.80, p < .01$ than job loss individuals. Regarding the main effect for control, results also suggested that high-control individuals had significantly more positive affect, $F(1, 131) = 7.72, p < .01$ and life satisfaction, $F(1, 131) = 13.03, p < .001$ than low-control individuals in both the job loss and empty nest samples. However, low-control individuals reported significantly more negative affect, $F(1, 131) = 4.36, p < .05$, than high-control individuals in both job loss and empty nest samples.

**Commitment.** A 2 (high versus low commitment) x 2 (life event) Multivariate Analysis of Variance (MANOVA) did not yield a significant interaction of commitment by life event. Significant main effects were again found for life event, $F(13, 125) = 4.72, p < .001$ and commitment, $F(13, 125) = 4.00, p < .001$. Results for the commitment analysis can be found in Table 7 for the job loss sample and Table 8 for the empty nest sample.
Univariate analyses regarding main effect of life event suggested that individuals experiencing job loss reported significantly more distress than individuals experiencing the empty nest, $F(1, 137) = 4.21, p < .05$. Job loss individuals also reported using coping strategies significantly more than did empty nest parents. These strategies included: confrontation, $F(1, 137) = 7.22, p < .01$, distancing, $F(1, 137) = 11.92, p < .001$, self-control, $F(1, 137) = 27.33, p < .001$, seeking support, $F(1, 137) = 14.08, p < .001$, accepting responsibility, $F(1, 137) = 13.62, p < .001$, escape-avoidance, $F(1, 137) = 31.27, p < .001$, planning, $F(1, 137) = 10.00, p < .01$, and positive reappraisal, $F(1, 137) = 4.10, p < .05$. However, empty nest parents reported significantly more positive affect, $F(1, 137) = 10.96, p < .001$ and life satisfaction, $F(1, 137) = 3.99, p < .05$ than job loss individuals.

Univariate analyses regarding main effect for commitment revealed that high-commitment individuals in both the job loss and empty nest samples utilized support systems significantly more than low-commitment individuals, $F(1, 137) = 4.57, p < .05$. High-commitment individuals in the job loss and empty nest sample also used positive reappraisal significantly more than did low-commitment individuals, $F(1, 137) = 6.52, p < .05$. Additionally, high-commitment individuals reported utilizing escape-avoidant coping strategies significantly more than did low-commitment
individuals in the empty nest sample, whereas in the job loss sample this picture was reversed, $F(1, 137) = 6.28, p < .05$. Low-commitment individuals in both the job loss and empty nest sample reported significantly more distress, $F(1, 137) = 15.28, p < .001$ and used confrontation as a coping strategy, $F(1, 137) = 4.16, p < .05$, more than did high-commitment individuals. Analyses also suggested that, in both samples, high-commitment individuals experienced significantly more positive affect, $F(1, 137) = 27.26, p < .001$ and life satisfaction, $F(1, 137) = 33.48, p < .001$ than low-commitment individuals, whereas low-commitment individuals reported significantly more negative affect, $F(1, 137) = 10.78, p < .001$.

**Challenge.** A 2 (high versus low challenge) x 2 (life event) Multivariate Analysis of Variance failed to yield a significant interaction. However, significant main effects were found for both life event, $F(13, 124) = 4.55, p < .001$ and challenge, $F(13, 124) = 2.01, p < .05$. Results for the challenge analysis can be found in Table 9 for the job loss sample and in Table 10 for the empty nest sample. Univariate analyses for life event revealed that individuals in the job loss sample experienced distress significantly more than individuals in the empty nest transition, $F(1, 136) = 4.82, p < .05$. Job loss individuals also reported using coping strategies significantly more than empty nest parents. These strategies included: confrontation, $F(1, 136) = 8.21, p <$
.01, distancing, $F(1, 136) = 10.73, p < .001$, self-control, $F(1, 136) = 27.00, p < .001$, seeking support, $F(1, 136) = 13.39, p < .001$, accepting responsibility, $F(1, 136) = 14.91, p < .001$, using escape-avoidance, $F(1, 136) = 30.62, p < .001$, and planning, $F(1, 136) = 10.81, p < .001$. However, empty nest individuals experienced significantly more positive affect, $F(1, 136) = 11.71, p < .001$ and life satisfaction, $F(1, 136) = 5.00, p < .05$ than job loss individuals.

Regarding the main effect for challenge, univariate analyses indicated that high-challenge individuals had significantly more positive affect, $F(1, 136) = 5.16, p < .05$ and life satisfaction, $F(1, 136) = 4.25, p < .05$ than low-challenge individuals. Also, positive reappraisal for high-challenge individuals approached significance ($p < .10$).

**Hardy Personality Subscales using Covariates**

**Control.** Employing the same data set, a 2 (high versus low control) x 2 (life event-job loss versus empty nest) Multivariate Analysis of Covariance (MANCOVA) using age, education, income, neuroticism, extraversion, and social desirability as covariates was performed. Analyses did not yield a significant interaction of control by life event or a main effect for control. However, a main effect for life event was found, $F(13, 106) = 3.35, p < .001$. Results from the control analysis can be found in Table 11 for the job loss sample and Table 12 for the empty nest.
sample. Univariate analyses regarding main effect for life event suggested that empty nest parents utilized support systems significantly more than job loss individuals, $F(1, 118) = 4.20, p < .05$. Empty nest parents also had significantly more positive affect, $F(1, 118) = 9.44, p < .01$ and life satisfaction, $F(1, 118) = 3.91, p < .05$ than individuals in the job loss sample. However, job loss individuals use coping strategies significantly more than did empty nest parents. These strategies included: confrontation, $F(1, 118) = 6.88, p < .01$, distancing, $F(1, 118) = 5.55, p < .05$, self-control, $F(1, 118) = 16.08, p < .001$, seeking support, $F(1, 118) = 7.73, p < .01$, accepting responsibility, $F(1, 118) = 5.50, p < .05$, escape-avoidance, $F(1, 118) = 18.25, p < .001$, and planning, $F(1, 118) = 5.01, p < .05$.

**Commitment.** A 2 (high versus low commitment) x 2 (life event) Multivariate Analysis of Covariance (MANCOVA), with age, education, income, neuroticism, extroversion, and social desirability as covariates, did not produce a significant interaction between level of commitment and life event, nor did it produce a significant main effect for commitment. However, a significant main effect was found for event, $F(13, 111) = 3.13, p < .001$. Results for the commitment analysis may be found in Table 13 for the job loss sample and Table 14 for the empty nest sample.
Challenge. Finally, a 2 (high versus low challenge) x 2 (life event) Multivariate Analysis of Covariance (MANCOVA), with age, education, income, neuroticism, extroversion, and social desirability as covariates, did not produce a significant interaction between level of challenge and life event. Significant main effects were found for life event, $F(13, 110) = 3.14, p < .001$, and challenge, $F(13, 110) = 1.98, p < .05$. Results for the challenge analysis may be found in Table 15 for the job loss sample and Table 16 for the empty nest sample.

Univariate analyses for the main effect of life event suggested that empty nest parents utilized support systems, $F(1, 122) = 4.46, p < .05$, and reported positive affect, $F(1, 122) = 7.94, p < .01$, significantly more than job loss individuals did. Coping strategies, however, were used by individuals in the job loss sample significantly more often than by empty nest parents. These strategies included: confrontation, $F(1, 122) = 8.07, p < .01$, distancing, $F(1, 122) = 5.90, p < .05$, self-control, $F(1, 122) = 17.64, p < .001$, seeking support, $F(1, 122) = 10.07, p < .01$, accepting responsibility, $F(1, 122) = 7.93, p < .01$, escape-avoidance, $F(1, 122) = 19.23, p < .001$, and planning, $F(1, 122) = 6.66, p < .05$.

Univariate analyses for main effect for challenge suggested that high-challenge individuals, in both the job loss and empty nest samples, used the coping strategies of
accepting responsibility, $F(1, 122) = 8.14, p < .01$, and positive reappraisal, $F(1, 122) = 4.19, p < .05$, significantly more often than did low-challenge individuals. Also in both samples, high-challenge individuals had significantly more negative affect than low-challenge individuals, $F(1, 122) = 5.60, p < .05$. 
CHAPTER IV

DISCUSSION

The purpose of this study was to investigate the relationship between psychological hardiness and individuals' coping with two particular life events, involuntary job loss and post-parental launching of adolescent children. This study hypothesized that individuals assessed as high-hardy would experience these transitional events more positively than individuals assessed as low-hardy. In addition, it was expected that individuals assessed as low-hardy would report more distress than individuals assessed as high-hardy.

This study enlisted males and females who had experienced either job loss or the empty nest within the last 24 months. The independent variables were high versus low hardiness, involuntary job loss, and departure of youngest child from the parental home. Dependent variables consisted of outcomes from various scales measuring psychological functioning, illness symptoms, adjustment, affect, life satisfaction, and coping strategies. Neuroticism, extraversion, age, level of education, and social desirability served as covariates. Statistical
analyses were performed using a high/low median split for overall hardiness and a high/low median split for each hardiness subscale. Multivariate Analysis of Variance and Multivariate Analysis of Covariance were used to analyze overall hardiness and a series of hardiness subscales.

Results from the analyses suggest that, without controls in place for neuroticism, extraversion, age, level of income, and social desirability, involuntary job loss individuals did not fare as well as empty nest parents evidenced by how often they experienced distress and employed assorted coping strategies. However, the effects for distress and some coping strategies disappeared once the above mentioned controls were in place.

The results also indicate that the proposed hypothesis was generally supported. A significant interaction of hardiness by life event was found with and without covariates. Additionally, the coping style of escape-avoidance, specific to these interactions, was not affected by covariates. However, when covariates were introduced, main effects vanished for overall hardiness, control, and commitment. Only the challenge subscale retained a significant main effect when covariates were added. Most importantly, significant findings for distress (the core measurement of hardiness effects) disappeared in analyses of overall hardiness, control, commitment, and challenge when controls were in place.
The exploratory nature of this study required the use of four separate multivariate analysis of variance and four separate multivariate analysis of covariance. These eight analyses included (a) two based on hardy personality construct as proposed by Kobasa (1979), (b) two based on the control subscale, (c) two based on the commitment subscale, and (d) two based on the challenge subscale.

**Hardy Personality Construct without Covariates**

The analysis of overall hardiness produced a significant interaction of hardiness by life event. This finding suggests that people who vary in level of hardiness (high versus low) cope with the life events of involuntary job loss and empty nest in different ways. Specific to the interaction was the escape-avoidant coping style, which was used by low-hardy job loss individuals and high-hardy empty nesters more often than their high-hardy job loss and low-hardy empty nest counterparts, a possible indication of desire for control over event repercussions.

The use of escape-avoidant coping for low-hardy individuals was also found in a study by Rush, Schoel, and Barnard (1995) examining employees who were pressured for change. Research by Folkman et al. (1986) suggests that, when appraised situations are troubling yet require acceptance, escape-avoidance strategies allow the person to divert their focus to something more pleasant. Involuntary job loss is an example of an event which requires
acceptance, is regarded as troubling and, additionally, is not always anticipated. In this instance, the escape-avoidant strategy might be considered maladaptive if the unemployed individual chose to pursue escapist types of activities rather than to focus their energies on job hunting. On the other hand, for high-hardy empty nesters the event was anticipated and, though regarded as somewhat troubling, a form of acceptance may have begun before the child left the parental home, therefore, escape-avoidance might be viewed as a short-term, psychologically adaptive method of coping with this change in lifestyle.

Although interactions were found in a number of other studies (Kobasa, Maddi, & Courington, 1981; Kobasa, Maddi, & Kahn, 1982; Kobasa, Maddi, & Zola, 1983; Kobasa & Puccetti, 1983), these were primarily between hardiness and stress/illness outcomes. In the present noncovariate analysis, distress was not a significant univariate finding for the job loss or empty nest sample.

A significant main effect was also found for life event indicating that job loss individuals differ from empty nest parents. Univariate analysis specific to this effect suggests that job loss individuals experience more distress, which is not surprising given the additional concern of economic impact, as well as more time available to dwell on somatic and psychological complaints. These individuals also used coping strategies more often, which included:
confrontation, distancing, self-control, seeking support, accepting responsibility, escape-avoidance, and planning techniques.

Frequent use of these coping strategies may represent how the involuntary job loss individuals struggle to adapt to an unanticipated situation. For example, according to Folkman et al. (1986), a person who accepts responsibility for a situation appraised as changeable is then enabled to stay focused on that situation, a helpful skill when looking for a new job. Other researchers have more closely examined coping strategies employed and found a strong relationship exists between social support and job loss (Pearlin, Lieberman, Menaghan, & Mullan, 1981). However, due to our current transient society, difficulties may arise for the individual who is seeking support in an environment where strong ties have not yet been established. In fact, it is possible that a primary network of support maintained in the workplace was actually terminated along with employment.

Although results from the present study indicated that empty nest parents also employed coping strategies, they did so less often than job loss individuals and none of the univariate findings specific to main effect for life event approached significance. This fact may be attributed to the anticipatory nature of adolescent launching which gives parents time to prepare. Not only is the empty nest an anticipated event, it differs from job loss in that a
relationship still exists even though a child is launched from the home. In contrast, when involuntary job loss occurs, an individual often becomes permanently estranged from that particular employment relationship. The empty nest may also provide some positive benefits such as more free time. Overall, the frequency of coping strategies used by job loss individuals was greater than empty nest parents, which again may be a reflection of the more stressful and unanticipated nature of job loss.

Additionally, empty nesters reported more positive affect and life satisfaction than job loss individuals. This finding seems contrary to studies such as Curlee (1969) who found connections between empty nest mothers and alcoholism, yet similar to studies where more positive outcomes were discovered (Adelmann et al., 1989; Glenn, 1975; Harkins, 1978; Spence & Lonner, 1971). According to Raup and Myers (1989), positive reactions to the postparental period are not uncommon particularly if women have alternative role investments and if parents have frequent contact with their launched children (White & Edwards, 1990). Based on the results of this analysis, the empty nest might be viewed in part as a desirable event while involuntary job loss is generally unanticipated and undesirable. Hence, the very nature of these events may influence the choice of coping strategy.
A significant main effect was additionally found for overall hardiness suggesting that low-hardy individuals do indeed differ from high-hardy individuals. The univariate analysis specific to this effect indicated that more distress was suffered by low-hardy individuals in both samples. This finding is similar to much of the hardiness research (Campbell, Swank, & Vincent, 1991; Kobasa, 1979; Kobasa et al., 1981; Kobasa et al., 1982; Kobasa et al., 1983; Kobasa & Puccetti, 1983) which demonstrated that, under high life stress conditions, low-hardy individuals report more illness and psychological disturbance than individuals assessed as high-hardy. Also, in both samples, high-hardy individuals reported significantly more positive affect and life satisfaction, whereas low-hardy individuals reported more negative affect and less life satisfaction. Similar findings were noted in studies where hardy individuals expressed greater contentment in their overall quality of life (Evans, Pellizzari, Culbert, & Metzen, 1993; Rhodewalt & Agustsdottir, 1984; Rush, Schoel, & Barnard, 1995). A positive cognitive appraisal of life, even while experiencing stressful transitions, may be an indication of perceived mastery over life's circumstances, and thus may be related to the control component of the hardiness model.

**Hardy Personality Construct using Covariates**

In the second analyses, the same data set was used while controlling for age, education, income, neuroticism,
extraversion, and social desirability. Similar to the above-mentioned findings, there was an interaction between hardiness and life event specific to the escape-avoidant coping style, whereby low-hardy, job loss individuals and high-hardy, empty nest parents both employed this coping strategy. Interactions have been found in hardiness studies that investigated the hardy personality and its relation to distress outcomes (Ganellen & Blaney, 1984; Kobasa et al., 1981; Kobasa et al., 1982; Kobasa et al., 1983; Rhodewalt & Zone, 1989) without controlling for the above factors. Although it has been suggested that the predictive ability of hardiness generally disappears when controlling for neuroticism (Lightsey, 1996) this result adds to the growing number of similar findings by researchers who also either statistically control for the hardiness/neuroticism overlap, or who might match samples along either hardiness or neuroticism.

There was also a main effect for life event, again indicating that job loss individuals are different from empty nest parents. In this particular analysis, however, the only significant univariate finding for the empty nest sample revealed that empty nest individuals utilized support systems significantly more often than job loss individuals. The utilization of support systems during the empty nest transition could be viewed as an approach strategy. Roth and Cohn (1986) propose that approach strategies allow the
individual to notice changes in a situation and take appropriate action. "Ventilation of affect" is also possible, which can reduce stress associated with the event. Roth and Cohn (1986) suggest that this approach is more effective when the situation is potentially controllable. When comparing job loss with launching children, it appears the latter event lends itself to more control possibilities.

The above finding of main effect for life event was also found in the previous noncovariate analysis. Findings from the accompanying univariate analysis indicated that job loss subjects suffered more distress than empty nest parents. However, in this particular covariate analysis that finding was not replicated. One possibility for this difference could be the neuroticism confound, which was a covariate in this second set of analyses. According to Costa and McCrae (1985), neuroticism encompasses chronically worried and dysphoric individuals who tend to overreport illness complaints without demonstrating actual illness symptoms. It is interesting to note the lack of a significant finding for distress, once neuroticism was controlled for in this study.

Although in this particular covariate analysis distress was not a significant finding, comparison between the covariate and noncovariate analyses revealed duplications of significant coping strategies. It appears that, using covariates, confrontation, distancing, self-control, seeking
support, accepting responsibility for the situation, escape-avoidance, and planning remained the strategies of choice for job loss individuals. Although higher positive affect also remained significant for the empty nest sample, life satisfaction vanished with the use of covariates. Controlling for extraversion, which is commonly recognized as socialability and dominance in the interpersonal realm and as cheerful and highly active in the temperamental realm (McCrae, 1991), may be one explanation for the lack of a significant finding for life satisfaction. Even though the empty nest transition is anticipated and provides some benefits to parents which may promote a positive mental attitude, the fact remains that a highly active phase of the parents lives has closed thus requiring replacement of what was once deemed to be satisfying.

The disappearance of a significant main effect for overall hardiness, when controls for the above confounds were made, is most important to recognize. A trend toward finding main effects for hardiness, rather than interactions between hardiness and life stress, has been noted by some researchers (Funk & Houston, 1987; Hills & Norvell, 1991; Hull, Van Treuren, & Virnelli, 1987; Rush, Schoel, & Barnard, 1995). Other researchers have raised the concern that hardiness measures are confounded with neuroticism (Allred & Smith, 1989; Parkes & Rendall, 1988), which may invalidate the hardiness/health relation. However, Maddi and
Khoshaba (1994) found that, although hardiness and neuroticism may be correlated, the two concepts remain distinct. Interestingly, while controlling for neuroticism and extraversion, the present study found both a significant interaction between hardiness and life event and the absence of a significant main effect for overall hardiness.

It is also of importance to note that, along with the disappearance of a main effect for hardiness, there were no significant findings for distress in this covaried analysis. Since neuroticism is considered a possible contaminate in the hardiness measure (r = -.48 in this sample), it was controlled for in this analysis. Subsequently, the lack of a distress finding appears to support the hardiness/neuroticism overlap and thus weaken the proposed hardiness/illness relationship.

Hardy Personality Subscales without Covariates

Control. Examining only the control component of the hardy personality, no significant interaction was indicated; however, a main effect was found for life event. Univariate results were consistent with those found in the hardy personality construct analyses where covariates were not used. A main effect found for control indicated that high-control individuals, in both samples, experienced more positive affect and life satisfaction, whereas individuals with low-control experienced more negative affect and less life satisfaction.
By definition, high-control individuals operate from an internal locus of control position versus low-control individuals' feelings of powerlessness. Internal locus of control is a personality dimension which refers to an individual's belief that they can greatly determine the direction of life's circumstances. This concept seems closely related to the control component of hardiness as does self-efficacy, another popular construct. Self-efficacy also relies on the individual's expectation that they can effectively cope with and master situations and, through their own personal effort, bring about desired outcomes.

The global happiness indicated in these findings would then be a logical reflection of persons who believe they are "masters" of their environment. For the most part, the above results were similar to the noncovaried analysis of the hardy personality construct, except for the disappearance of the impact of control on distress and use of escape-avoidance.

Commitment. Similar to the control component analysis discussed above, no significant commitment by life event interaction was found. A significant main effect was again found for life event with the same univariate results as both the noncovariate analyses of hardy personality and control. In this analysis, however, positive reappraisal was found to be an additional coping strategy used significantly more often by job loss individuals than empty nest parents.
Since commitment is contrasted with alienation, job loss individuals in this particular analysis may have been more willing to reinterpret their involuntary unemployment and engage in job hunting from a deeper personal perspective.

Similar to other studies (Hull et al., 1987), a main effect was also found for commitment, however the effect varied from the hardy personality construct and control analyses in that additional univariate results were obtained. High-commitment individuals in both the job loss and empty nest samples utilized support systems more often, used positive reappraisal as a coping strategy, and reported more positive affect and life satisfaction. The use of secondary appraisal of threat was also found to be significant for commitment in research conducted on men training for the Israeli army (Florian, Mikulincer, & Taubman, 1995). These findings may be reflecting the basis of the commitment component, whereby highly committed individuals have an overall sense of purpose and a meaningful outlook on life. They prefer to become active and involved in life's situations, instead of remaining passive and uninvolved. Therefore, a person who is highly committed may have social support systems already in place and available for access whenever a crisis arises. They may then appraise such a crisis in terms of how meaningful it was to their existence and, consequently, react to the crisis with a more positive attitude.
Another finding, similar to the noncovaried hardy personality construct analyses, revealed that high-commitment individuals in the empty nest sample used escape-avoidance as a coping strategy more often, whereas low-commitment individuals utilized it more often in the job loss sample. Because of the actively involved nature of the highly committed person, this finding may seem contradictory. However, it may be understood by again considering Folkman's et al. (1986) suggestion that escape-avoidance is used when a situation requires acceptance. Since the empty nest is such a situation, highly committed individuals may tend to choose a more adaptive method of "escaping." This may be manifested by pursuing other areas of interest rather than focusing on launching their last child, however troubling that may be. In this respect, escape-avoidance might be viewed as the ability to "carry on". It should also be noted that high-commitment job loss subjects may not have chosen escape-avoidant behavior because they could have been actively occupied in seeking employment.

On the other hand, although job loss also requires acceptance, the use of escape-avoidance by low-commitment job loss individuals is a reasonable finding consistent with, as previously mentioned, the inability to anticipate this particular life event. Persons assessed as low-commitment also experienced more distress, used
confrontation as a coping strategy, and displayed more negative affect in both samples. Such findings, as the definition of commitment suggests, might be expected from people lacking a sense of purpose and who are alienated from social involvement.

**Challenge.** Again, as in control and commitment, no significant challenge by life event interaction was found. A significant main effect was found for life event and univariate results remained consistent with the hardy personality construct, control, and commitment noncovaried analyses. There was also a main effect for challenge, with univariate results indicating high-challenge individuals reporting more positive affect and life satisfaction. Positive reappraisal was also employed more so by high-challenge individuals as a coping strategy; this finding approached statistical significance. These results are congruent with the description of high-challenge persons who consider life events not as overwhelming burdens, but as a normal part of life with opportunities to advance developmentally. Kobasa (1979) maintains that high-challenge individuals tend to construe life changes and their accompanying obstacles from a positive perspective.

**Hardy Personality Subscales using Covariates**

**Control.** In this analysis, controlling for age, education, income, neuroticism, extraversion, and social desirability, no significant interaction of control by life
event or main effect for control was found. This is somewhat
different from the covaried analysis findings regarding the
hardy personality construct where the interaction remained
but the main effect for hardiness disappeared. A significant
main effect for life event was found again and the
univariate results were similar to the covaried analysis
hardy personality. One difference, however, was that empty
nest parents experienced significantly more life
satisfaction than job loss individuals, whereas in the
covariate analysis of the hardy personality construct life
satisfaction vanished when controls were in place. It
appears that the covariates had no effect on the control
subscale when measuring life satisfaction.

**Commitment.** Once again no significant commitment by
life event interaction was found nor was there a significant
main effect for commitment. A significant main effect was
found, however, for life event, which produced univariate
results somewhat similar to the covaried analysis for
control except for the omission of any significant findings
for utilizing support systems and life satisfaction in the
empty nest sample. This would be an indication that the
covariates used in the analysis had an impact on these
particular variables.

**Challenge.** Finally, no challenge by life event
interaction was found when controlling for the above
confounds. A main effect was discovered for life event and
univariate analysis revealed results similar to both the control and commitment covaried analyses. However, as with the hardy personality and commitment covariate analyses, life satisfaction was not found to be significant for either the job loss and empty nest samples. These findings differ from the control covariate analysis which found life satisfaction to be significant for only the empty nest parents. Also in this analysis, a main effect was found for challenge, which did not occur in either the control or commitment covariate analyses. This finding suggests that high-challenge individuals are different from low-challenge individuals, particularly with regard to the coping strategies they employ. High-challenge individuals in both samples use accepting responsibility and positive reappraisal to a greater extent than low-challenge individuals which is again to be expected from people who reevaluate and integrate life changes into their own lifestyle. Interestingly, high-challenge individuals in both samples had more negative affect than low-challenge individuals. This could be a function of controlling for extraversion, which may have diminished the challenge/extraversion overlap, thereby allowing more genuine affect to be measured.

Limitations of the Present Study

Sampling issues. As previously mentioned, the lack of a sufficient number of male subjects eliminated the use of
gender and marital status as independent variables. Therefore, it was not possible to analyze their effects on the empty nest transition. Another limitation that must be considered is selection bias. Due to the hardy individual's outgoing nature, they may be more inclined to volunteer for situations which require self-investigation. Conversely, the manner in which this study was organized may have somehow made it biased against low-hardy persons. Finally, there may have been a number of subjects who experienced extraordinary trouble coping with these two particular life events and chose not to volunteer. These factors may account for the absence of additional interactions.

Measurement issues. The difference between the average length of time for the onset of each life event may also be considered as a limitation in the present study. In the job loss sample, the average onset of the event was approximately three months, compared with the empty nest sample where the average onset of the event was approximately eight months. Because the job loss sample had more recently experienced the stressful life event, this study may have been measuring a phase of involuntary unemployment that had a higher level of intensity. Although the empty nest sample was also experiencing a stressful life event, they were measured after having had a fair amount of time to adapt. Time lapse between event and measurement can be an important consideration. As an example, a review by
Hagen (1983) of physical illness and job loss points to a lag time of between two to three years for the development of cardiovascular disease in relation to continued unemployment.

One common criticism of hardiness-health research focuses on reliance of self-reported illness as a measure of ill health. Using the Hopkins Symptom Checklist, which is a self-report measure, may not present an accurate picture of a subject's true health status. However, the effects of reporting illness symptoms rather than illness itself may have been reduced when examining the analyses which controlled for neuroticism. Although debate on the issue of self-report of illness ensues, Contrada (1989) suggests such reports can be used as a "starting point" for finding links between personality characteristics and health.

**Hardiness scale.** As much of the literature critiquing hardiness research observes, the instruments used to measure hardiness serve as limitations by themselves. Although the present study used the Personal Views Survey developed by Kobasa (personal communication 1995), there are several other hardiness instruments available. Each one appears to raise psychometric questions (Hull et al., 1987; Jennings & Staggers, 1994) and makes any kind of uniform consistency difficult. The wording used in the Personal Views Survey may be another limitation of this study and could have impacted some results. Noted by other researchers (Maddi & Khoshaba,
1994; Parkes and Rendall, 1988), the survey statements assume the respondent is employed. At least seven or more statements could be construed to presume employment. The following are a few examples: "Most of the time, my bosses or superiors will listen to what I have to say.", "When I'm reprimanded at work, it usually seems to be unjustified.", and "When I am at work performing a difficult task I know when I need to ask for help." Since recent involuntary job loss indicates unemployment, subjects in the job loss sample may have been confused as to how to respond. The subjects may have also had some residual feelings regarding the lost job. Finally, regarding the empty nest sample, not all mothers are employed and this may have contaminated results.

**Future Research**

Any further hardiness research should keep the limitations mentioned above in mind, particularly those regarding the Personal Views Survey. Nevertheless, the significant results from the present study suggest that investigation into hardiness and its relationship as a buffer on the stress related to life events should continue. Because the use of covariates appeared to impact the results, this area is also worthy of continued attention. Hardiness researchers may want to replicate the method used in this study, whereby analyses are performed both with and without controlling for neuroticism and extraversion. Also, when investigating involuntary job loss and hardiness,
consideration might be given to controlling for financial strain (Kessler et al., 1987) in order to better understand the stress associated with the degree of economic hardship.

Although other studies have examined the relationship between coping and hardiness, significant findings in the present study indicate a connection between escape-avoidance and hardiness. It would be interesting to discover whether this is the "strategy of choice" for hardy individuals in various life events. It would also be interesting to analyze hardiness and its impact on other transitional life events, in particular comparing ones that can and cannot be anticipated. A list of such events may include: job transfer, divorce, birth of first child, sudden death of a child etc. Hardiness and its relevance to other dimensions of life events may also be an area to investigate. How much control an individual can exert on an event as well as the desirability of an event are examples of two dimensions that possessing a hardy personality may or may not influence. A wedding might be considered as an event that has a wide range of control options and can also vary in its desirability.

In order to strengthen the generalizability of the findings of this study, attention must also be paid to a variety of populations. Multicultural samples would be an interesting place to begin, as well as single parents, working mothers, and parents of twins. All of these
populations could feasibly experience either of the two life events investigated in this study. Unfortunately, the lack of a sufficient number of male subjects in the present investigation prohibited analyses of gender differences. Needless to say, results might be helpful in understanding how gender impacts hardiness, job loss, and empty nest.

Another line of investigation should be directed at redefining the "empty nest syndrome" for parents in the 1990's or whether it even exists. The results of this preliminary study seem to agree with more recent research which depicts empty nest parents as happier and more satisfied with their lives. An outgrowth of this study may be to further examine the coping strategies employed by current empty nesters who may be more "psychologically enlightened" than their parents.

Conclusion

The data from the present study moderately supports the assumption that there is a difference between an individual's level of hardiness and their experience of either involuntary job loss or empty nest. More importantly, however, is the fact that this association remained intact even when controls for neuroticism and extraversion were enlisted. Nevertheless, the relation between possessing a hardy personality and successful navigation through a stressful life event is not a simple one. Based on results
from this study, it appears that this relationship may be tempered by the particular coping skill of escape-avoidance.

The results also complicate the hardiness/physical illness concept, which had been promoted in previous research. Although, the interaction between hardiness and both life events was maintained even when controls were used, a main effect for overall hardiness was not. Along with the disappearance of an overall hardiness main effect in the covariate analyses was the lack of a significant finding for distress. Even though these seem to be contradictory findings, it may serve as an indication that hardiness does not exert direct mediating effects on stress associated with either involuntary job loss or empty nest situations.

Additionally, analyses in the present study addressed the subscales of the hardiness construct. Overall, results were similar to the hardy personality construct analyses when comparing the subscales with and without covariates. The two major differences were the lack of any significant interactions for all three subscales (both in covariate and noncovariate analyses) and the retention of a main effect for challenge, when covariates were used. The challenge finding corroborates some research defending challenge as a viable component of the hardiness construct (Ganellen & Blaney, 1984; Contrada, 1989) and contradicts others who would like to see challenge eliminated (Florian et al.,
1995; Hull et al., 1987). It may be that high-challenge individuals are more active in seeking out support, particularly under stressful conditions.

In regard to the stressful life events examined in this study, involuntary job loss appears to require more coping skills than launching the last child from the parental home. Job loss data obtained here closely approximated results from other studies. More interesting, however, was the data on the postparental transition period. As mentioned previously, results from this study supported more recent research on empty nest, which basically negates the "syndrome" observed during the 1960's. Empty nest parents appear to be enjoying this phase of their lives and, therefore, do not rely on coping strategies as often as do job loss individuals.

In summary, hardiness remains a concept open for further investigation. Although results obtained in this study do provide some support for the hardy personality model and its buffering role in stressful life events, many issues still require clarification. Refining the hardiness methodology and closely examining the interrelatedness of hardiness and coping skills are areas requiring exploration. Once the relationship is more clearly defined, the possibility exists for use of hardiness traits in stress management training, particularly in instances where the stress can be anticipated, such as impending loss of
employment (downsizing) or birth of a first child. It is impossible to reverse life events of any kind, but education, services and public policies can assist in reducing negative consequences. In this regard, hardiness and life events can become intertwined with positive and productive outcomes.
APPENDIX

TABLES
Table 1

**Observed and Adjusted Means for the Job Loss Sample Based on Hardy Personality Construct**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>LOW HARDY</th>
<th></th>
<th></th>
<th>HIGH HARDY</th>
<th></th>
<th></th>
</tr>
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<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>AdjM</td>
<td>M</td>
<td>SD</td>
<td>AdjM</td>
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<td>85.67</td>
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<td>3.63</td>
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<td>8.05</td>
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<td>Seeks Support</td>
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<td>7.32</td>
<td>6.24</td>
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<td>6.28</td>
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<td>Accepts Responsibility</td>
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<td>2.55</td>
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<td>2.30</td>
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<td>Escape-Avoidant Coping</td>
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<td>6.47</td>
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<td>Planful Problem Solving</td>
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<td>2.71</td>
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<tr>
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REFERENCES


for physical and psychological well-being. Individual Psychology, 48, 480-487.


