Correlates of Health and Success Among Psychology Graduate Students: Stress, Distress, Coping, Well Being, and Social Support

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Correlates of Health and Success
Among Psychology Graduate Students:
Stress, Distress, Coping, Well Being, and Social Support

by
Nancy G. Nelson

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Newberg, Oregon
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by
Nancy G. Nelson

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Correlates of Health and Success
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Abstract

This study was designed to examine factors associated with academic success among graduate students in clinical psychology. Success was defined as higher GPA's, higher scores on the GRE (total, verbal and quantitative) and the acquisition of a "special commendation" from psychology faculty members. After a careful review of the literature, it was hypothesized that graduate students in clinical psychology who were more successful would be likely to have lower resting heart rates and lower blood pressure, and to report less stress, less distress, higher levels of social support, use of more "positive" and fewer "negative" coping strategies, higher levels of satisfaction with life, more positive and less negative affect, and greater spiritual well-being. Participants were students from the current student roster of a Graduate School of Clinical Psychology in the Pacific Northwest. Each subject completed a packet including a demographics/stress inventory, the General Health Questionnaire (GHQ),
the Multi-Dimensional Support Scale (MDSS), a coping scale (COPE), the Satisfaction With Life (SWL) Scale, brief Negative affectivity (NEM) and Positive affectivity (PEM) scales from the Multidimensional Personality Questionnaire, and the Spiritual Well-Being (SWB) Scale. In general, the hypothesis was supported by the results of this study. More successful students were likely to report: a) lower blood pressure and heart rate at time of testing, b) less stress regarding spirituality and relationships with friends, c) less overall distress, d) fewer somatic symptoms, e) higher levels of social support from family, close friends and peers, f) increased use of religion, restraint, suppression of competing activities, positive reinterpretation and growth, seeking of emotional social support and active coping, g) decreased use of denial, alcohol or drugs, and mental disengagement, and h) greater religious well-being. Three findings, however, did not support the hypothesis. First, more successful graduate students were likely to report increased use of the coping style Focus on and Venting of Emotion. Second, these students were also more likely to report increased levels of stress regarding scholastic coursework and dissertation work. Finally, students with higher levels of success were likely to report a greater number of surgeries over their lifetime and illnesses or trips to the doctor over the past two years.
Dedication

This manuscript is dedicated to my children, Adam and Becca, whom I love with all my soul. They have encouraged me in my scholastic endeavors, cheerfully shared financial hardship, weathered time constraints with patience, and generally loved me and put up with me through thick and thin. I am forever grateful to be their mom.

I also wish to dedicate this to my parents for their constant love, encouragement, and support which has given me the strength and courage to blaze new trails and keep moving forward even during those days when the terrain sometimes looks impassable. I am grateful as well for my brothers and their families for believing in me, checking up on me, and reminding me that maintaining balance and sanity is more important than those ever-present deadlines.

To my friend, Vicki Saunders, I also owe a debt of gratitude. Although she has not been directly involved in this project, she has listened patiently to all the other aspects of my life that have needed to be lovingly heard and held in order for me to stay emotionally healthy and be able to focus and concentrate even in the midst of turmoil.
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Thank you to Dr. Robert Buckler for his willingness to take this project on even though he was already overcommitted, for helping me to choose reliable instruments, for pushing me to include physical measures, and for believing in me and my ability to finish this project in a timely manner. His critique of earlier drafts was invaluable. My gratitude also flows to Dr. Chris Koch for his patience, time, and expertise with the statistical aspects of this project. I am also most appreciative of his generosity in allowing me to use his computer and SPSS scoring program.

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Graduate school is often perceived as a time of increased demands, expectations, and levels of stress coupled with high risk for the development of physical and psychological health problems. Whitman, Spendlove and Clark (1984) reported five conditions of typical graduate student life that cause “friction, disaffection and general unhappiness” (p. 34). They suggested that graduate students are often treated like sub-adults, exploited by their professors and universities, subject to arbitrary treatment with little recourse, dependent on their professors for their advancement, and placed in ambivalent roles with professors as teaching or research colleagues. They also identified multiple stressors common to graduate students, namely: a sense of powerlessness, multiple life changes, difficult academic and research demands, an impersonal atmosphere, reduction in time and opportunity for developing and maintaining intimate relationships, financial constraints, a discouraging job market, restrictions involved in specializing, and poor relationships with teachers or advisors.

Although comparison of graduate students in different fields is limited, it has yielded interesting results. In a comparison of 350 medical, law, chemistry, and psychology graduate students by Heins, Fahey and Leiden (1984), level of stress was not a differentiating variable between the three groups. Psychology graduate students, however, scored significantly higher in the area of economic stress and most frequently endorsed the individual item regarding stress about “future career.” For the students as a whole across disciplines, time was the most cited stressor, followed by economic and academic stressors. Rocha-Singh’s (1994) research among 816
ethnically diverse students from three assorted graduate programs indicated that
graduate students in general report stress in areas of academic, environmental, and
family/financial concerns. Dudley and Dudley (1994) found that seminary students
also reported elevated levels of stress, and that time and financial constraints were
cited as the greatest stressors.

Medical students have been studied rather extensively, and the literature
indicated that a significant number of medical students reported elevated levels of
stress and often experienced significant psychological difficulties during medical
training. Butterfield’s review (1988) stated that medical residents suffered from sleep
deprivation, fatigue, lack of personal time, and inadequate social support, as well as
specific occupational stressors. Emotional changes included increases in depression
and anger over the course of training. Stress and emotional distress were reported as
greater for female residents than for their male counterparts. Boyle and Coombs
(1971) listed additional stressors including: fear of making an error in diagnosis and
treatment, loneliness, deferred sexuality, and limited recreational and social outlets.
Toews, Lockyer, Dobson and Brownell (1993) compared 406 medical students,
medical residents, and graduate science students. All groups experienced elevated
levels of perceived stress, but graduate science students reported higher levels of
stress on every scale and composite score than did the medical students or medical
residents. The stressors most frequently reported by all groups were self-expectations,
exams and evaluations, time available, and volume of work.

Bjorksten, Sutherland, Miller and Stewart (1983) found a shared spectrum of
problems or stressors among 1,695 medical, dental, pharmacy, nursing, and graduate
and allied health students. Of these students, 585 were medical students. They
reported greater severity of problems on 35 of the 83 problem items listed. The most
frequently endorsed items for medical students included: lack of time, sense of powerlessness within the academic system, conflict between work and fun, finances, fatigue, not being valued by the faculty, grades, motivation to study, competition, feeling that the quality of education is poor, feeling dissatisfied with self, friends, and daydreaming.

Saunders and Balinsky (1993) studied 305 graduate students in education, public health, and psychology regarding perceived levels of stress and cognitive beliefs. A cognitive belief inventory was developed from student responses to the question, “What are some of the things about being in graduate school that are stressful to you?” These responses were formed into statements of belief, and a few new beliefs were also added to the item pool based on cognitive literature. In the development of the instrument, similar or duplicate items, items that were incompatible with cognitive theory, and items that did not differentiate between stressed and nonstressed students were eliminated. Stressed students were differentiated from unstressed students on the basis of answers to the single item, “Are you going through a stressful time right now?” Those items that remained fell into four clusters with factor analysis. These clusters were labeled Negative Cognition, Overload, High Expectations, and Social Concerns.

Stressed students scored significantly higher on the Negative Cognition and Overload scales than did nonstressed students. Examples from these two scales include, respectively, “If I make a mistake, sometimes I question my ability to do graduate level work,” and “I have had to give up much or all of my social life to succeed in school.” The Negative Cognition scale was a discriminator between stressed and nonstressed students regardless of other variables. The Overload scale seemed to be particularly significant for older students, women, and those reporting
multiple roles. No significant differences were reported regarding the different types of graduate study (Saunders & Balinsky, 1993).

**Psychology graduate students.** Very little research has been conducted specifically targeting psychology graduate students and their perceived levels of stress and distress. A Psychology Student Stress Questionnaire (PSSQ) was developed by Cahir and Morris (1991) and yielded seven underlying clusters of stressors through factor analysis: time constraints, feedback from specific faculty, financial constraints, help from faculty, social support from a friend, feedback with regard to status in program, and administrative issues. Time constraints accounted for the greatest variance in stress ratings. Hudson and O'Regan (1994) compared PSSQ scores with demographic variables among graduate psychology students. No one factor was an adequate predictor of stress levels, but when two or more factors were analyzed, there were significant differences among the following: number of children and relationship status, number of hours spent working, relationship with a significant other, and gender. Age of student, year in the program, and income level were not predictive of stress levels. Time and relationship factors were consistently reported as the most salient factors in levels of perceived stress.

Mental health professionals (psychologists, psychiatrists and psychotherapists) have been found to have consistently higher rates of depression, anxiety, and relationship problems than the general population (Deutsch, 1985; Looney, Harding, Blotcky, & Barnhart, 1980; Thoreson, Budd, & Krauskopf, 1986). White and Franzoni (1990) indicated similar findings for masters-level students in psychology. Illovsky (1993) compared faculty and doctoral students in the mental health profession with biological and physical scientists in an effort to determine whether or not the study of
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psychology improved mental and physical health. No significant differences in either physical or mental health between the two groups were found.

**Gender differences.** Many studies found that female graduate students in various fields reported significantly higher levels of stress and distress than did their male counterparts (Butterfield, 1988; Cahir & Morris, 1991; Mallinckrodt, Leong & Kralj, 1989; Mallinckrodt & Leong, 1992; Toews, et. al., 1993; Van Meter & Agronow, 1982). Van Meter and Agronow (1982) found that increased role strain for married college women was correlated with perceived lack of social support from family, marital dissatisfaction, poor health, and lack of satisfaction with their own accomplishments. For those who needed child care, satisfaction with child care services was strongly associated with lowered levels of role strain. Mallinckrodt, Leong and Kralj (1989) found no significant differences regarding marital status or presence of children.

Moreover, Munson (1984) found no significant differences in levels of stress between 14 male and 68 female graduate social work students. Soares, Prestridge and Soares (1992) studied 375 graduate students from a variety of disciplines over a three-year period, and found that male and female students consistently endorsed the same stressors as most and least stressful. The highest ranked stressors were finances/money, time, the future, and academic activities. The lowest ranked stressors were personal relationships, changes, and the self. It would appear that external pressures exceed internal pressures as the most salient stressors in graduate school, regardless of gender.

A study of 240 students in a professional school of psychology by Hudson and O'Regan (1994) also found no significant differences in levels of reported stress according to gender. Women who were working full-time and not in a committed relationship, however, reported the highest stress levels. Sori, Wetchler, Ray and
Niedner's (1996) study of 145 graduate students and their spouses in a marriage and family therapy training program found no significant difference in levels of reported stress among male and female graduate students. However, they found that male spouses of female students reported significantly higher levels of stress than did female spouses of male students.

Lack of support (Mallinckrodt & Leong, 1992) or negative encounters with professors (Mallinckrodt, Leong & Kralj, 1989) have been cited as particularly stressful for female students. Mallinckrodt, Leong and Kralj (1989) found, in a study of 450 graduate students, that female students more frequently endorsed job-related concerns as well as stressors in interpersonal relationships than did males. Job-related concerns for females were twice as likely to be linked with depression as were interpersonal relationship stressors. The largest depression effect was found for personal illness or injury in females, yet was not correlated with significant stress symptoms in males. For males, financial concerns were ranked relatively higher than for females, but the absolute number of females reporting financial concerns was higher.

From a review of the research, the question arises: Why do female students often report higher levels of stress and distress than male students? Cahir and Morris (1991) suggest some possibilities. Perhaps females have been culturally conditioned to express emotions more freely than males, and therefore report higher levels of stress even when they are experiencing equal levels of actual stressors. On the other hand, females in graduate school or universities may actually experience higher levels of stress than their male colleagues. Mallinckrodt and Leong (1992) and Mallinckrodt, Leong and Kralj (1989) cite greater role strain for female students than for their male counterparts, and suggest that this may be because home responsibilities remain
primarily in a female student’s domain despite heavy academic and economic responsibilities. Other possibilities cited in the literature include inadequate day-care arrangements for female students with young children (Van Meter & Agronow, 1982), less familial support with females typically giving more support than they receive, and a tendency for females to report more stressful life event changes that affect significant others in their lives even when personal life event changes are equivalent to those reported by males (Mallinckrodt & Leong, 1992; Mallinckrodt, Leong & Kralj, 1989).

**Social support in graduate school.** Social support and stress have been firmly linked in general psychological and health research (Cohen & Willis, 1985; Hobfoll, 1985; Thoits, 1985; Turner, Frankel & Levin, 1983). Goplerud (1980) studied 22 graduate psychology students to determine the relationship between social support and stress during the first year of graduate school. Students who were relatively socially isolated reported significantly more cumulative stress, more emotional and health problems, and more life change events, with greater intensity ratings. Faculty-student relationships were found to be particularly significant. Frequency of faculty contacts correlated significantly with fewer reports of intense life change events, fewer emotional and health problems, less cumulative stress and greater general satisfaction with the graduate school experience.

Winfield’s (1993) study of 568 older university students found that the availability of teacher support predicted study satisfaction and that study satisfaction had a major influence on students’ psychological well-being. Study satisfaction was measured by using a modified version of the Job Satisfaction scale by Warr, Cook and Watt (1979). According to Mallinckrodt, Leong and Fretz (1985) lack of satisfaction among doctoral graduate students, as demonstrated by attrition rates, has been found
to be as high as 50% in some programs, which has also been linked to a lack of social support and deficits in coping skills.

Marriage is one of the most common forms of strong social support. Research involving 1,695 graduate medical and health science students indicated that married graduate students reported less stress than single students (Bjorksten, et al., 1983). Craddock (1996) studied 19 seminary students and their wives. High marital satisfaction and family resources at entry were correlated with lower levels of reported stress later in the program. Level of satisfaction with friendships at entry did not show any significant correlation with later stress. Similarly, Mallinckrodt and Leong (1992) found that for male students, graduate and family support had direct effects on reduction of stress symptoms, but no buffering effects. For female students, graduate support was not significant in either direct or buffering effects, and family support had only buffering effects. Female students, however, also reported receiving significantly less academic and family support than did male students.

**Working with clients.** Graduate students in clinical psychology and social work experience personal challenges in clinical training with clients in addition to rigorous academic challenges. Um and Brown-Standridge (1993) identified four categories of stressful dilemmas in field placements for social work students, arising from discrepancies between implicit and explicit work-setting rules. This can result in confused hierarchy, confused roles, confused accountability and/or binds. Confused hierarchy results when appointed leaders will not take a clear stand, leading to inconsistency about who is in charge and who will provide help if there is a problem. Confusion of roles often results in staff working at cross-purposes with each other, and in a perception that the student role is devalued. Confused accountability may result in negligence of adequate and effective patient care, with no one ultimately taking
responsibility. Finally, binds involve the communication of two or more simultaneous and contradictory demands, which may paralyze effective action. Unclear lines of authority and scope of duties and opportunities are only part of the stress for students working with clients at field placements.

In addition, interaction with clients may also be very stressful, particularly for trainees. Kleespies, Smith and Becker (1990) surveyed 54 psychology interns. They found that interns who had experienced a patient's suicide reported particularly high levels of stress. Intern levels of stress in these circumstances was higher than that found among professional clinicians who had experienced patient suicides and equivalent to levels of stress found among patients who had personally experienced bereavement. Interns with patient suicide attempts that were not successful also reported significantly elevated levels of stress.

Working with traumatized clients may lead to induced trauma symptoms in student therapists. This phenomenon is referred to as vicarious traumatization. In a study by Schauben and Frazier (1995) women psychologists working with a high percentage of sexual violence survivors in their caseloads reported more vicarious trauma, more symptoms of post-traumatic stress disorder, and more disrupted beliefs, especially about the "goodness" of other people. This and other (Pearlman & Mac Ian, 1995) similar research indicated that symptomatology was not related to the psychologist's personal history of victimization.

Neuman and Gamble (1995) reviewed the literature regarding vicarious traumatization issues in the development of psychotherapists. New trauma therapists were particularly susceptible to vicarious traumatization. Symptomatology may include a sense of guilt for being "inadequate," identification with client's sense of helplessness, viewing self as a helpless witness to the client's trauma, intense
preoccupation with the traumatized client, emotional numbing and flooding, feeling angry, shamed, attacked, abandoned, helpless, or guilty, increased somatic symptoms such as headaches, nausea, and sleeplessness, increased anxiety and depression, intrusive imagery, increased feelings of personal vulnerability, sexual difficulties, increased pessimism about the world, loss of faith in their ability to help through therapy, difficulty trusting others, and increased fears for personal safety. McCann & Pearlman (1990) suggested that vicarious traumatization may also involve a disruption of core beliefs about safety, trust, esteem, control and intimacy in addition to many of the symptoms mentioned in the above research.

Working with clients, in general, need not result in increased levels of stress and distress. Farber (1983) investigated 60 psychotherapists to determine the effects of psychotherapeutic practice upon psychotherapists. Therapists were asked to report on personal changes they had undergone since beginning therapeutic practice. Therapists reported becoming increasingly psychological-minded, self-aware, and self-assured. They attributed these changes to the effects of practicing psychotherapy (Farber, 1983). These are positive changes that graduate psychology students may look forward to experiencing.

Stress

Although stress has long been a major focus of research, a commonly accepted definition of stress has not been universally employed. Measurements of stress tend to vary according to the degree to which they emphasize stressful events, responses to stressors, or individual appraisals of situations as stressful. Cohen, Kessler and Gordon (1995) defined stress as a situation where "environmental demands tax or exceed the adaptive capacity of an organism, resulting in psychological and biological changes that may place persons at risk for disease" (p. 3). Lazarus and Folkman
(1984) suggested that the way one interprets and appraises a situation as stressful or not is predictive of how much stress one experiences in that situation and of how well one tends to cope with that situation. The degree to which one has been successful at coping in the past, as well as one’s perceived sense of self-efficacy, influence one’s appraisal of whether or not a situation poses more loss, threat, or challenge than they can adequately manage.

One approach to stress measurement is to examine the fit between the person and the environment. This approach has been widely used in organizational behavior research. Research indicates that a mismatch between environmental demands and employee abilities leads to increased tension. In addition, a mismatch between environmental supplies and employee values leads to increased dissatisfaction (Edwards, 1996). Although the graduate school environment is not equivalent to a business environment, many organizational similarities would make this approach worth considering in research regarding stress particularly associated with graduate students.

Much of the stress research has focused on the relationship between life change events and physical or psychological health consequences (Burks & Martin, 1985; DeLongis, Coyne, Dakof, Folkman & Lazarus, 1982; Holmes & Rahe, 1967; Kanner, Coyne, Schaefer & Lazarus, 1981; Sarason, Johnson & Siegel, 1978). Some researchers, however, have found that major life events are not the most effective predictors of future illness (Burks & Martin, 1985; Cohen, Kamarck & Mermelstein, 1983; DeLongis, Coyne, Dakof, Folkman & Lazarus, 1982; Depue & Monroe, 1986; Kanner et al., 1981; Magnus, Diener, Fujita & Payot, 1993). Everyday hassles and ongoing stressors were found to be strong, and often better predictors of psychological and somatic problems than were major life-events (Burks & Martin, 1985; Cohen,
Methodological problems abound in stress research. Psychological and somatic symptoms may be easily confounded with measures of stress, which could result in circular relationships where the same variable is being measured in the independent and dependent variables. In this case, positive correlations between "stress" and "illness" are almost guaranteed (Dohrenwend, Dohrenwend, Dodson & Shroot, 1984; Lazarus, DeLongis, Folkman & Gruen, 1985; Schroeder & Costa, 1984). If subjective elements such as appraisal or distress are included in stress research, confounding factors appear inevitable. However, to not include them, and attempt to reduce the concept of stress to simple stimuli, would seem to be a step backward in understanding the complexity of psychological stress, emotion, and adaptational outcomes in the interaction of two complex systems: the person and the environment. In addition, confounding factors may not be as significant as some have believed. Lazarus et al. (1985) reanalyzed data from research regarding the Hassles Scale to screen for possible confounded items. They indicated that even with the exclusion of possibly confounded items, a strong correlation between hassles and psychological symptoms remained. In fact, the strength of the correlation was very similar to that for the confounded items and psychological symptoms. Thus, these results would suggest that stress and distress may overlap, but they are not the same.

Another methodological difficulty in stress research is that somatic and psychological problems are usually assumed to be a result of increased levels of stress, but they may in fact be a cause of stress. Stress-disorder models are often based on the assumption that life events and psychological disorders are independent variables, but with chronic disordered people, this is not the case (Brown, 1979;
Additionally, chronic stressors may not be reported in typical stress instruments which measure stressors that occurred in the past week or month (DePue & Monroe, 1986).

Stress research is also subject to all of the methodological difficulties common to subjective measures. Individual differences in how people perceive and report stress may be what is being measured, as well as differences in actual levels of stress. For example, Moss and Lawrence's (1997) study of 88 M.B.A. students found that those who were exposed to information about typical stressors and resulting strains in the M.B.A. program, later reported experiencing higher levels of stressors and strains than did those who had not received prior information. This priming effect leads to questions about the relationship between levels of stress and expectations of stress. In other words, if graduate students expect graduate school to be stressful, will they tend to report it as more stressful than if they expect to be able to manage it with ease, or even find it enjoyable?

Based on the literature reviewed thus far, it would seem important to consider appraisals and expectations, environmental stressors, hassles, personal factors, perception of available resources and gains, and perception of degrees of stress in the measurement of stress levels and the determination of specific stressors in graduate school in clinical psychology.

Physical Health and Stress

Several studies have examined the relationships between specific physical health indicators and stress. Fuller (1992) studied 45 female graduate students, tested two weeks before, one day before, and one week following their oral comprehensive examinations. They had faster heart rates and reported greater anxiety on the day before the examination than at the two other time periods. This finding linked
increased stress with increased heart rate and anxiety. Research by Van Rood, Goulmy, Blokland, Pool, Van Rood and Van Houwelingen (1995) of 47 Ph.D. students preparing to defend their thesis, found that students reported the highest levels of subjective distress four to eight weeks before their defense and the lowest levels of subjective distress four weeks after. Greater levels of distress, as measured by the General Health Questionnaire, were also significantly correlated with higher immunoglobulin M (IgM) concentrations in blood samples. Test stress has also been implicated in Wootton's (1993) study of 40 masters-level students facing their final comprehensive examinations. They experienced increased levels of anxiety and depressive symptoms, and increased use of medications and medical-psychiatric interventions during this time period.

Social support and various coping styles may also affect physical health symptoms. Blumenthal, Burg, Barefoot, Williams, Haney and Zimet's (1987) study of 113 patients undergoing coronary angiography found that the probability of significant coronary artery disease (CAD) was inversely related to level of social support. This was only true, however, for subjects with Type A behavior. Turner, Clancy and Vitaliano (1987) studied 85 subjects with chronic low back pain. They found that, among those subjects who listed pain as their primary stressor, coping styles involving the seeking of social support and blaming oneself were associated with less pain. In contrast, coping styles involving wishful thinking and avoidance were associated with more pain.

Different populations appear to differ in their reporting of physical health complaints. Mallinckrodt, Leong and Kralj (1989) studied 450 graduate students. The number of negative life events was significantly related to physical health complaints for female subjects, but not for male subjects. A study of 55 older Soviet immigrants
by Kohn, Flaherty and Levav (1989) found elevations in somatization, depression, and demoralization. Compared to a depressed population, however, the Soviet immigrants were found to be significantly lower on depression scores but significantly higher on somatization scores. The authors proposed that the high rate of reported somatization was an expression of depression in this population. Other research has indicated that women may also be under-diagnosed for depression due to confounding with physical symptoms. Betrus et al. (1995) found that among 237 women clients seeking treatment for physical disorders at a university nursing clinic, the depressed women reported significantly more physical complaints, functional limitations, and increased disability than did the non-depressed women. Betrus and colleagues also cited prevalence rates of 12% to 55% of total patients who are depressed but are seeking treatment for physical disorders in the primary care setting. The confounding of somatic and psychological complaints would suggest that external measures of physical health may be needed to help differentiate between the two domains.

Measurements of heart rate and blood pressure are often used in research regarding community health. Hypertension has been frequently cited as one of the major cardiovascular risk variables (Deacon, 1991; Elder, Schmid, Dower & Hedlund, 1993; Haines, Patterson, Rayner & Hyland, 1992; Julius, 1997; Kannel, 1997). Hypertension has been defined as a diastolic blood pressure greater than or equal to 95 mm Hg (Skarfors, Lithell & Selinus, 1991), and as the above coupled with systolic blood pressure greater than or equal to 160 mm Hg (De Henauw, De Bacquer, Fonteyne, Stam, Kornitzer & De Backer, 1998). Skafor, Lithell and Selinus (1991) screened 2,322 middle-aged men and found that baseline blood pressures were the strongest predictors of the future development of hypertension. Thus, elevated blood
pressure readings below the hypertensive cut-off may also be associated with developing hypertension.

Murray, Luepker, Pirie, Grimm, Bloom, Davis and Blackburn (1986), in a study of over 2,000 subjects representative of a southern Minnesota community of 35,000, identified resting heart rate as a differentiating variable in coronary heart disease. Mensink and Hoffmeister's (1997) research, involving 4,756 Berlin residents, indicated that resting heart rate is a predictor of mortality, independent of major cardiovascular risk variables. Additionally, Aronow & Ahn (1997) found that increments of increased resting heart rate were increasingly predictive for new coronary events in a study of 2,151 older subjects with heart disease and sinus rhythm. Malik, Hnatkova & Camm (1997) found that increased mean 24-hour heart rate was predictive for mortality among 592 post-infarction patients.

Caution in the interpretation of heart rate and blood pressure measurements must be exercised. Perry and Miller (1992) examined data from the NHANES study population of over 100,000 subjects. For single-measurement situations, as many as two-thirds of the subjects who had diastolic blood pressures of 95 mm Hg or more, did not actually have average pressures that high. Single measurements of resting heart rate have been found to be similar in predictive accuracy to mean 24-hour heart rate measurements (Malik, et. al., 1997).

Coping

The multidimensional quality of coping makes research in this area difficult. One controversial issue revolves around whether people have stable coping styles or whether coping is more situation-specific. A review of multiple studies regarding coping and stress by Laux and Weber (1987) found stability in coping styles across similar situations. However, cross-situational consistency in coping styles across
dissimilar situations was not well established. In fact, in most studies, a high degree of situation-specific selectivity is observed. This makes it difficult to determine which modes of coping are effective in a universal or normative fashion. What works effectively in one situation may be very unhelpful in another. Also, one specific coping response may serve different intentions and functions for different people or even for the same person across different situations. For instance, seeking social support may be used for distraction, emotional support, or aid in problem-solving.

Another issue concerns how to define coping. Some researchers describe coping as any response to stress. Others, such as Folkman, Lazarus, Gruen, and DeLongis (1986b), describe coping as a person's "cognitive and behavioral efforts to manage the internal and external demands of the person-environment transaction that is appraised as taxing or exceeding the person's resources" (p.572). Theoretically these approaches may differ considerably. Yet, in practice coping scales generally measure both effortful and non-effortful responses to stressful situations. These responses have also been shown to fall into two broad categories: dealing with the problem and regulation of emotion (Folkman et al. 1986b; Laux & Weber, 1987).

Variability in coping is partially a function of people's appraisal of the situation. Both primary (degree of perceived threat) and secondary (assessment of coping options available) appraisals are strongly influenced by the situational context itself (Folkman, Lazarus, Dunkel-Schetter, DeLongis & Gruen, 1986a; Folkman, et al., 1986b). Folkman (1984) suggested that realistic appraisals of a situation are necessary to avoid frustration or missed opportunities. Appraisals of degree of control have been found to be strongly related to coping responses. However, they may not be related to degree of distress. In coping research, perceptions of control need to be examined in the context of specific stressful encounters to determine personal
meaning or significance, to understand what is specifically controllable, and to evaluate the fit between control appraisals and actual characteristics of the situation. It is also important to recognize that personal control can function as an antecedent variable, an outcome variable, or as a cognitive mediator of a stressful transaction.

Appraisals of control may not, however, be as predictive of coping efforts as appraisals of self-efficacy. Terry (1991) found that appraisals of self-efficacy were associated with use of more problem-focused and fewer emotion-focused coping strategies among 138 university students preparing for an exam. This was not found for appraisals of situational control. In addition, Terry found that high levels of stress engendered more problem-focused coping rather than more emotion-focused coping.

McCrae (1984), in a study of 406 subjects, divided stressors into categories of loss, threat, or challenge. Coping strategies of faith, fatalism, and expressions of feelings were associated with loss. Faith, fatalism, and wishful thinking were used most in situations of threat. Challenge was most often met with rational action, perseverance, positive thinking, intellectual denial, restraint, self-adaptation, humor, and drawing strength from adversity.

Folkman and colleagues (1986a; 1986b), in a study of 85 married couples, found appraisals involving a work-related goal to be associated with increased use of planful problem-solving and self-control. Appraisal involving self-esteem and concern for a loved one's well-being were associated with the use of more confrontive coping and escape-avoidance. Those with self-esteem at stake sought less social support, and those encountering threatened loss of respect for someone else, relied more on both confrontive coping and self-control. Although some of these coping responses to specific appraisals seem contradictory, they may be mutually facilitative when used in balance or unfolding over time.
Although research indicates that people do tend to use multiple coping approaches, some types of coping strategies have been generally found to be more stable across situations and more helpful than others. Folkman and colleagues (1986a; 1986b) conducted research with 170 subjects across five different stressful situations. Results indicated that the use of positive reappraisal was relatively stable across situations, whereas problem-focused coping appeared to be strongly influenced by situational context. Confrontive coping and distancing were generally associated with negative outcomes, while planful problem solving and positive reappraisal were generally associated with positive outcomes. It was found that subjects used more distancing and escape-avoidance in situations which they appraised as unchangeable. This strategy may have been more adaptive than wasting energy on active problem-solving if indeed their appraisal was accurate (Folkman, et. al, 1986a; Folkman, et. al., 1986b). Furthermore, Folkman and colleagues (1986a; 1986b) also indicated that personality factors, such as sense of mastery and interpersonal trust, seemed to be more helpful in situations in which the subject has very little control. However, specific coping responses were more helpful in situations where personal effort could influence changes. No specific coping and personality factors in these studies were significantly predictive of somatic health. Subjects were asked to appraise situations according to likelihood of losing something important to them, such as health, safety, affection, or respect for themselves or loved ones. The more subjects had at stake in their primary appraisal, the more they coped and the poorer was their reported health. Aldwin and Revenson (1987), in research involving 291 adults who responded to a community survey, found that higher endorsement of all coping strategies was associated with increased levels of distress. This finding suggests that maximum coping effort may not be indicative of maximum
efficiency in coping. In addition, increased use of coping strategies might be indicative of increased need to cope due to higher levels of stress.

Aldwin and Revenson (1987) found no clear consensus regarding which coping strategies are most effective. They found that the subject's perception of the efficacy of their coping efforts was more strongly correlated with level of distress than was the actual type of coping strategy employed. In a study of 301 college students regarding whether or not they remained enrolled in school, it was found that coping resources were not a significant variable (Ryland, Riordan, & Brack, 1994). However, differences between coping strategies have resulted in significant differences in reported levels of stress or distress. Kohn, Hay and Legere (1994) compared task-oriented coping, emotion-oriented coping, and avoidance-oriented coping in relation to daily hassles among 186 university students and 165 high school teachers. They found, contrary to expectation, that task oriented coping did not diminish the adverse effects of hassles, or reduce psychological symptoms or physical ailments. Also, emotion-oriented coping did not exacerbate the impact of hassles. It did, however, contribute to greater levels of perceived stress and psychological symptoms. Avoidance-oriented coping, however, was positively correlated with psychiatric symptomatology and minor physical ailments. The results of the study suggest that neither task-oriented nor emotion-oriented coping can be expected to diminish the adverse effects of hassles. In addition, avoidance-oriented coping is least helpful in relation to physical and psychological symptomatology.

Nezu (1986) found that among 310 university students, those rated as effective problem solvers reported lower levels of anxiety. Among 151 clients with chronic diabetes, cancer, arthritis or hypertensive disease (Felton & Revenson, 1984), wish-fulfilling fantasy (a form of avoidance) was found to correlate positively with negative
affect and negatively with acceptance. Increased information seeking was positively correlated with an increase in positive affect. Collins, Baum and Singer (1983) found that for 70 subjects coping with chronic stress, emotional management and positive reappraisal were found to correlate with more desirable results than either problem-oriented coping or denial.

A study of emotion and coping (Folkman & Lazarus, 1985) among 189 college undergraduates indicated that all coping processes were used throughout all the phases of exam preparation and waiting. Problem-focused coping was used most during preparation and emotion-focused coping (distancing) was used most after receiving an undesirable grade. Other studies have indicated that a good sense of humor appears to facilitate coping and adjustment, serving as a moderator between stressors and moods (Kuiper, Martin & Olinger, 1993; Martin & Lefcourt, 1983). In addition, in a sample of 672 college freshman, good college adjustment and performance were found to correlate with increased active coping and seeking of social support and decreased avoidance coping (Aspinwall & Taylor, 1992). Based on the coping literature reviewed, it appears that both emotion-focused and problem-focused coping are frequently effective, depending upon the situational context. Research further indicates that avoidance coping, however, seems to be counterproductive in most situations.

Social Support

Various definitions for social support have been used in research. For the most part, it has been viewed as a multidimensional construct, although some research instruments cover more dimensions than others. Gottlieb (1981) describes social support as "the help that helpers extend" (p. 209). This help has typically fallen into three categories: cognitive guidance/information, tangible/instrumental aid, and
emotional sustenance. Some forms of social support may also fall outside of these main categories. Occasionally, researches have used a single construct, such as marital status as a social support measure. Other measures have focused on social bonds, social networks, availability of confidants, human companionship, meaningful social contact, and contact with formal and informal voluntary associations. (Cohen, Mermelstein, Kamarck & Hoberman, 1985; Dunkel-Schetter, Folkman & Lazarus, 1987; Turner, Frankel & Levin, 1983; Wilcox & Vernberg, 1985).

Research has consistently indicated that social support has both a direct impact and a buffer effect on the relationship between stressors and distress (Cohen & Willis, 1985; Hobfoll, 1985; Thoits, 1985; Turner, Frankel & Levin, 1983). The efficacy of social support is, however, dependent upon variables such as personality traits and health status of the recipient, situational/personal need for social support, type and sufficiency of social support offered, who offers the support, and the match between the perceived threat of the stressor and the type and amount of support offered (Antonucci, 1985; Cohen, Mermelstein, Kamarck & Hoberman, 1985; Dunkel-Schetter, et al., 1987; Flaherty & Richman, 1989; Hobfoll, 1985; Munir & Jackson, 1997; Neuling & Winefield, 1988; Richman & Flaherty, 1985; Wilcox & Vernberg, 1985; Winefield, Winefield & Tiggemann, 1992).

In general, social support has been associated with low to moderate effects on the relationship between stressors and distress. Findings indicate that people who are experiencing greater levels of stress benefit more directly from increased social support than do those who are not particularly stressed (Dunkel-Schetter, Folkman & Lazarus, 1987; Hobfoll, 1985; Richman & Flaherty, 1985; Turner, Frankel & Levin, 1983). People under great stress also tend to seek more social support (Dunkel-Schetter et al., 1987). In a study of coping and depression among 211 medical
students, Richman and Flaherty (1985) found that subjects with higher interpersonal dependency sought greater amounts of social support and reported more distress symptoms. These results obscured the inverse relationship between social support and depression that was found if interpersonal dependency was held constant. Richman and Flaherty suggest that similar confounding of variables in other social support research may have resulted in artificially lowered outcomes regarding the efficacy of social support.

Other methodological issues in social support involve objective versus perceived measures of social support, depth versus breadth in social support systems, availability of resources versus use of resources experienced as supportive, and the nature of interpersonal interaction (Antonucci, 1985; Hobfoll, 1985; Turner, Frankel & Levin, 1983). Subjects may have multiple friends and family members with whom they regularly interact. If, however, those contacts are non-supportive, they will not be likely to experience those contacts as helpful. Conversely, a minimal social-support system may provide all the support needed, if those few relationships involve healthy intimacy and helping. In some instances, people may receive extensive support, but not experience it as support, and consequently remain distressed. In other instances, someone may have personality characteristics that prevent them from fully accessing available support. If measures of social support do not take these variables into account, the outcomes may be misleading.

In a study on social support and depression, it was found that those with high social support showed significant decreases in depression scores compared to those with low social support (Flaherty, Gaviria & Pathak, 1983). Richman and Flaherty (1985) also found no significant correlation between social support and depressive symptomatology. However, when interpersonal dependency was held constant, it was
found that social support was significantly and inversely related to prevalence of depressive symptomatology. Results from both studies appear to consistently indicate a significant inverse relationship between depression and social support.

Research among 57 college and university students found that perceived availability of social support moderated the relationship between negative life stress and depressive and physical symptomatology (Cohen & Hoberman, 1983). Flaherty and Richman (1989) studied 195 first-year medical students. The female students appeared to have a greater capacity to provide support as well as a greater dependence upon social support for psychological well-being. Robbins and Tanck (1995) found, in a study of 84 undergraduates, that friends were reported as both the most sought after and the most helpful source of social support. Munir and Jackson's (1997) study of 61 female doctoral students indicated, however, that although friends were rated as most supportive and academic advisors as least supportive, it was increased support from advisors, and not from any other source, that correlated significantly with decreased anxiety. This finding suggests that in specific situations certain forms of support may be most influential on well-being, even if not perceived as the most significant part of one's overall supportive network. Similar results were found in a study of 58 post-surgery breast cancer patients by Neuling and Winefield (1988). Anxiety and depression levels were significantly related to satisfaction with support from surgeons at their one-month follow-up visit, rather than to satisfaction with support from family and friends, although patients commonly rated family members or friends as more supportive than surgeons. Winefield (1993) also found that among 568 older university students, availability of teacher support predicted study satisfaction, and study satisfaction was strongly correlated with students' psychological well-being.
Subjective Well-Being

For decades, research psychologists largely ignored subjective well-being and instead concentrated on human unhappiness (Diener, 1984). Subjective well-being has, however, captured psychologist's attention in recent years (Diener & Emmons, 1984). Well-being has frequently been described according to levels of happiness, satisfaction with life, or positive affect (Diener, 1984). Bradburn (1969) examined both positive and negative affect, and found that the correlation between the two was very low. Based on his research, Bradburn defined happiness as the balance of positive over negative affect. Subsequent research has supported the independence of positive and negative affects (Diener & Emmons, 1984; Tellegen, 1985; Watson, Clark & Carey, 1988; Zevon & Tellegen, 1982).

Diener and colleagues have defined subjective well-being as a global assessment of life satisfaction, including both an affective and a cognitive component. Instruments, such as the Satisfaction With Life (SWL) Scale, have been designed to capture the cognitive component of well-being (Diener, 1984; Diener, Emmons, Larsen & Griffen, 1985; Pavot & Diener, 1993; Pavot, Diener, Colvin & Sandvik, 1991; Shelvin & Bunting, 1994). However, definitions of happiness, life satisfaction, well-being, or mental health have sometimes been used interchangeably across research; thus care should be taken in interpretation and generalization of findings (Bradburn, 1969; Diener, 1984).

Diener (1984) reviewed numerous theories of happiness, satisfaction, or subjective well-being. Telic theories suggest that the fulfillment of inborn needs or goals is related to happiness, and that the most rewarding state is for cycles of want and fulfillment to repeat themselves in an orderly way. Activity theories suggest that happiness is a by-product of the activity/behavior of goal pursuit. Bottom-up theories
view happiness as the sum product of many small pleasures, and top-down theories assume that one's global propensity to experience life in a positive way leads to enjoyment of pleasure. Associationistic theories seek to explain why some people have a temperament predisposed to happiness based on memory networks, conditioning, or cognitive principles of attribution. Judgment theories view happiness as based on a comparison between standards or aspirations and actual conditions, in which conditions exceed the standards or aspirations. However, adaptation theory suggests that only recent changes have the power to evoke great happiness or unhappiness, and that people adapt by changing their standards or aspirations. Thus, lottery winners and quadriplegics are likely to adjust and be no more or less happy than the average individual over time.

Although research does support adaptation theory, it has also indicated that happiness is not always relative (Bradburn, 1969; Diener, 1984; Veenhoven, 1991). In general, people tend to be less happy under adverse conditions. Gratification of biological and psychological needs effects how one feels emotionally, which in turn effects reported levels of happiness. Global assessment of life satisfaction, based primarily on judgment rather than affect, may show more temporal stability (Pavot & Diener, 1993).

Consequences of happiness have not been widely studied. Veenhoven's (1988) review suggests that happiness or enjoyment of life tends to accompany a "rosier" outlook on life, greater trust in people, more empathy and social sensitivity, increased social contact and community participation, being married and more satisfied with marriage, less absorption in personal problems, more openness, a sharper awareness, increased zest, and lower levels of stress and psychosomatic complaints.
Diener’s (1984) review found that satisfaction with self, or high self-esteem, was highly correlated with satisfaction with life. Satisfaction with relationships, family life, and standard of living were also strongly correlated with overall satisfaction with life. Direct levels of income were less predictive of satisfaction than were comparative levels of income, once income was high enough to meet basic needs. Unemployed persons consistently reported the lowest levels of happiness. Surprisingly, life satisfaction was not strongly correlated with intelligence, level of education, satisfaction with health, or satisfaction with work. Objective health ratings were even less correlated with life satisfaction than were subjective health satisfaction indicators. Sociability, internal locus of control, and optimism were moderately correlated. However, much of the variance in happiness or satisfaction with life is unaccounted for by the above variables and further research is needed to more adequately understand the variables influencing life satisfaction.

**Personality Factors and Stress**

Various personality factors have been linked to levels of stress, coping styles, well-being, and other outcomes. A secure attachment with parents (Brack, Gay & Matheny, 1993), a view of one’s childhood in a positive light and a sense of belonging (Kern, Groerer, Summers, Curlette & Matheny, 1996), high ego strength (Farne, Sebellico, Gnugnoli & Corallo, 1992), high self-esteem (Kreger, 1995; Linn & Zeppa, 1984; Witmer, Rich, Barckowski & Mague, 1983), high self-efficacy expectations (Folkman, 1984; Witmer et. al., 1983), fewer irrational beliefs (Witmer, et. al., 1983), and a general sense of internal versus external control (Folkman, 1984; Linn & Zeppa, 1984; Witmer et. al., 1983) have all been associated with increased levels of effective coping and decreased levels of perceived stress or distress.
Tellegen (1985) proposed that differences in basic affectivity play a prominent role in personality trait differences. In meta-studies of major dimensions of reported moods, factor analysis has indicated two primary factors: Positive Affect and Negative Affect. These mood factors were also found to be relatively independent of each other, and to correlate strongly with anxiety (high negative affect) and depression (low positive affect). The states of positive and negative affect also correlate strongly with self-descriptive personality traits on various measures representing general dimensions of positive and negative affectivity (Diener & Emmons, 1984; Tellegen, 1985; Watson, Clark & Carey, 1988; Zevon & Tellegen, 1982). Watson and Pennebaker (1989) found that people who scored high in Negative Affectivity reported greater sensitivity to pain, more hypervigilance, more introspection/rumination, and an overactive Behavioral Inhibition System. They also tended to report more somatic complaints. The authors’ analysis of both stress and health complaint scales revealed that they often contain a substantial component of Negative Affectivity measures, leading to high potential for confounding. Thus, correlations between such measures are likely to overestimate the true association between stress and health. Scores in Positive Affectivity measures, however, were found to be largely independent of both stress and health complaint scales. Although physical health complaints were found to correlate highly with NA, objective long-term health status did not show a significant correlation. Consequently, in studies of physical health, it appears that it would be important to find some way to differentiate between levels of actual health status and levels of health complaints.

Spiritual well-being

Spiritual well-being may be conceptualized as a component of general well-being or satisfaction with life. Moberg (1984) described the “spiritual” as that which
pertains to man's inner resources, basic values, and ultimate concerns which guide a person's conduct, whether religious or not. The Spiritual Well-Being (SWB) Scale (Ellison, 1983; Paloutzian & Ellison, 1982) was designed to measure both religious and existential well-being as continuous variables. The religious component addresses a sense of well-being in relation to God. Existential well-being is conceptualized as pertaining to life purpose and satisfaction, with no specific religious reference.

Success Factors in Graduate School

Graduate program admissions committees commonly consider several factors that they believe are predictive of success in graduate school: Graduate Record Examination (GRE) or other relevant test scores, undergraduate GPA's, letters of recommendation, honors received, publications, and work experience (Melchert, 1998; Wilson & Hardgrave, 1995). A confluence of factors such as ability, ambition, personality style, and opportunity are likely to affect high achievement more than any one factor (Melchert, 1998). Hirschberg and Itkin (1978) also found factors such as peer ratings of need for achievement, conscientiousness, and commitment to be important predictors of graduate school success. Success outcome variables have included not dropping out of graduate school, achieving a degree, achieving a degree within a specific time frame, graduate GPA's (as continuous or categorical variables), advisor ratings of student abilities, ratings of quality of dissertations, and publications (Hartnett & Willingham, 1980; Hirschberg & Itkin, 1978; Melchert, 1998; Sternberg & Williams, 1997; Wilson & Hardgrave, 1995). Hartnett and Willingham (1980) suggest that student evaluations in graduate school have historically been rated primarily through grades and letters of recommendation. Both objective and subjective success criterion would, therefore, appear to be critical to the evaluative process.
Sternberg and Williams (1997) examined the empirical validity of the GRE as a predictor of various kinds of performance in graduate school. Faculty in the department of psychology at Yale University (N = 40) were asked to rate their primary graduate student advisees on five scales: 1) analytical abilities, 2) creative abilities, 3) practical abilities, 4) research abilities, and 5) teaching abilities. These ratings were used, along with GPA's and independent dissertation ratings by non-advisor dissertation committee members, as performance criterion to be compared with predictor variables from GRE scores for 167 graduate students. The GRE was useful in predicting first-year grades, but not in the prediction of other kinds of performance, with the exception of the positive correlation of the GRE Analytic test with higher evaluations of student performance for men. Graduate GPA's correlated positively with the subjective faculty ratings. Faculty ratings correlated positively with each other, suggesting that the subjective ratings had adequate validity and reliability.

Melchert (1998) argued that Sternberg and Williams (1997) used a misleading approach for analyzing their data. Melchert suggested that a methodology involving decision theory and selection accuracy should be used rather than GRE scores alone. Melchert further argued that when all admitted students are highly capable, GRE scores will necessarily lead to low correlations, thus rendering GRE scores imprecise predictors of levels of achievement. Melchert proposed that an integrated procedure using multiple selection sources should be used in graduate admissions.

**Literature Review Summary**

A review of the literature indicates that graduate school is typically a time of increased stress and demands. Across graduate disciplines, time, financial, and academic stressors are most frequently endorsed (Bjorksten et al., 1983; Dudley & Dudley, 1994; Heins, Fahey & Leiden, 1984). Other common stressors include
concerns about the future, unfulfilled self-expectations, fatigue, and limited social support and interaction. Psychology and social work graduate students also experience stressors involved in clinical training, such as vicarious traumatization and site demands (Kleespies, Smith & Becker, 1990; Schauben & Frazier, 1995; Um & Brown-Standridge, 1993). New therapists consistently report greater levels of vicarious traumatization stress than do more experienced therapists working with these types of clients (Neuman & Gamble, 1995). Female graduate students have been found to consistently endorse the same types of stressors as male graduate students, but some research has indicated that females endorse greater levels of stress and distress than their male counterparts (Butterfield, 1988; Cahir & Morris, 1991; Mallinckrodt, Leong & Kralj, 1989; Mallinckrodt & Leong, 1992; Toews et al., 1993). Some additional reported stressors for female students include increased levels of role-strain and decreased levels of support from family, friends, and professors (Van Meter & Agronow, 1982).

Stress has been measured and defined in a multitude of ways. Cohen, Kessler and Gordon (1995) defined it as a situation where “environmental demands tax or exceed the adaptive capacity of an organism, resulting in psychological and biological changes that may place persons at risk for disease” (p. 3). Research regarding stress has indicated that appraisals and expectations, environmental stressors, hassles, personality factors, perception of available resources and gains, and perception of degrees of stress in the measurement of stress levels are all important variables to consider. Increased stress has been linked to both physical and psychological distress. Many of the above variables, however, appear to act as moderating influences on the stress-distress relationship.
Coping has been defined as a person’s “cognitive and behavioral efforts to manage the internal and external demands of the person-environment transaction that is appraised as taxing or exceeding the person’s resources” (Folkman, Lazarus, Gruen & DeLongis, 1986b, p.572). Two major categories of coping styles have emerged from the research: dealing with the problem and emotional regulation. Although coping styles show stability across similar situations, they tend to vary across dissimilar situations (Laux & Weber, 1987). Consequently, it has been difficult to determine which coping styles are most adaptive in general. Research has indicated, however, that avoidance coping strategies are consistently correlated with more negative outcomes (Folkman et al., 1986a, Folkman et al., 1986b; Kohn, Hay & Legere, 1994).

Social support has been defined as “the help that helpers extend” (Gottlieb, 1981, p. 209). Categories of social support may include cognitive guidance and information, tangible or instrumental aid, and emotional sustenance. Social support has been shown to have both direct and buffering effects on the relationships between stress and distress. Female graduate students appear to be particularly susceptible to the influence of support from academic professors and advisors. Some difficulties involved in social support research involve objective versus perceived measures of support, differences between depth and breadth of support, differences in availability versus actual use of social support, and the nature of the social support interactions.

Subjective well-being is considered to be composed of both affective and cognitive aspects. The balance between positive and negative affect has been defined by Bradburn (1969) as happiness. This measure has been refined by Tellegen (1985) and used as a trait measure of positive and negative affectivity. The Satisfaction With Life scale (Diener, et. al., 1985) was designed to measure the cognitive component of well-being. Happiness and well-being appear to be affected
by life circumstances as well as by personal characteristics such as attitudes, propensity to experience life in a positive way, expectations, self-esteem, and quality of interpersonal relationships. Spiritual well-being has been conceptualized in terms of both religious and existential well-being, or well-being in relation to God and in relation to life purpose and life satisfaction.

Predictors of success in graduate school have commonly been based on multiple variables, such as GRE scores, GPA's, letters of recommendation, honors received, publications, and work experience (Melchert, 1998; Wilson & Hardgrave, 1995). Success outcome variables have included not dropping out yet, achieving a degree, achieving a degree within a specific time frame, graduate GPA's (as continuous or categorical variables), advisor ratings of student abilities, ratings of quality of dissertations, and publications (Hirschberg & Itkin, 1978; Melchert, 1998; Sternberg & Williams, 1997; Wilson & Hardgrave, 1995). Sternberg and Williams (1997) compared faculty ratings in the domains of analytical abilities, creative abilities, practical abilities, research abilities, and teaching abilities with GRE scores and GPA's. These performance ratings reliably correlated with GPA's but not with GRE scores. Success in graduate school obviously involves more than just GRE scores or GPA's. Personal qualities and abilities in various domains should also be considered in evaluation of success outcomes in graduate school.

Justification for Research

Based on the literature reviewed, it is clear that more research is needed to determine what variables are most likely to contribute to overall success and health among psychology graduate students. It is also important to determine which variables are most likely to contribute to risk of failure or distress, and to examine the complexities of interactions among variables. Comprehensive evaluation is also
needed to more accurately determine overall needs of psychology graduate students to help tailor interventions and training programs. Studies which have examined stress and distress among graduate students have rarely included measures regarding physiology, stressors and enhancers, social support, coping strategies, satisfaction with life, personality characteristics, and spiritual well-being. In fact, no such comprehensive research was found in the literature to date.

Research Proposal

This study examines enhancers and stressors encountered in the experience of graduate school in a doctoral program of clinical psychology. Research focuses on resting heart rate, blood pressure, levels of distress, social support, coping strategies, satisfaction with life, balance of positive and negative affect, and spiritual well-being as they relate to Grade Point Averages (GPA’s), Graduate Record Examination (GRE) scores, and faculty ratings of student success in the form of “special commendations.”

Research Hypotheses

Students who are experiencing higher levels of success (as measured by current GPA, GRE scores, and special commendations awarded by faculty) will be likely to have: a) lower resting heart rates, b) lower blood pressure, and report c) less stress (as measured by the demographic/stress questionnaire), d) less distress (as measured by the General Health Questionnaire), e) higher levels of social support (as measured by the Multidimensional Support Scale), f) more of the “positive” and fewer of the “negative” coping strategies (as measured by the COPE), g) higher levels of satisfaction with life (as measured by the Satisfaction With Life scale), h) more positive and less negative affect (as measured by the Positive affectivity scale and Negative affectivity scale), i) and greater spiritual well-being (as measured by the Spiritual Well-Being scale).
Chapter 2

Methods

Participants

The sampling group for this study was comprised of current graduate students enrolled in a Christian doctoral program in clinical psychology. Those students who had completed coursework yet were still enrolled due to uncompleted internships or dissertations were excluded from the study. Out of the 61 eligible graduate students, 53 completed and returned the survey instruments in time for inclusion in the study, resulting in an 87% response rate. Twenty-six males and 26 females were represented. One subject did not indicate gender. The mean age of participants was 32, with ages ranging from 22 to 49. One subject did not indicate age. Regarding ethnicity, 81.1% of the respondents identified themselves as White, 3.8% as Black, 1.9% as Hispanic, 5.7% as Asian, 1.9% as Native American, and 5.7% as “Other.” Students who were married comprised 60.4% of the study sample, 28.3% were never married, 9.4% were divorced, and 1.9% were widowed. Additionally, 28.6% of the non-married sample reported living totally alone, 14.3% lived with children only, 4.8% lived with another family, 47.6% lived with roommates, and 4.8% marked “Other.” Within the non-married sample, 28.6% were involved in a steady and committed relationship, 23.8% were involved in a steady but uncommitted relationship, 28.6% were dating intermittently and 9.5% were uninvolved. Two subjects, comprising 9.5% of the non-married sample, declined to report on relationship status. Of the graduate students who completed this survey, 63.5% reported having no children. Those who
Health and Success

Materials

Materials administered included a demographic/stress questionnaire, the General Health Questionnaire (GHQ), the Multi-Dimensional Support Scale (MDSS), a coping scale (COPE), the Satisfaction With Life (SWL) Scale, brief Negative affectivity (NEM) and Positive affectivity (PEM) scales from the Multidimensional Personality Questionnaire, and the Spiritual Well-Being (SWB) Scale. Blood pressure and resting heart rate measurements were also recorded. In-coming GRE scores, as available, and current GPA’s were obtained for each subject from the registrar’s office. Formal letters of special commendation received from faculty were also recorded for those subjects who had received them.

Faculty ratings. Melchert’s (1988) proposal that multiple criterion be used in graduate admissions would seem useful advice for the measurement of success within graduate school as well. Consequently, faculty ratings were utilized to provide a more subjective measure of success for students in graduate school. Faculty ratings for this current study were based on the presence or absence of a special commendation awarded by faculty to students during their graduate school experience. Special commendations are based on a careful yearly review of each graduate student’s academic and clinical performance. A small number of graduate students are selected for special commendations, which are awarded for exceptional performance in both academic and clinical training activities. This special commendation is used as a subjective rating by faculty regarding the student’s standing within the graduate program, their suitability for clinical psychology work, and their level of professional development.
GPA's and GRE scores. The clinical director obtained current GPA's and GRE (Total, Verbal and Quantitative) scores for each subject that signed an informed consent volunteering for participation in this research. These scores were used as objective measures of academic success.

Blood pressure and heart rate. Blood pressure and heart rate were measured with an Omron Manual Inflation Blood Pressure Monitor which uses the oscillometric method of blood pressure measurement, converting blood movement into a digital reading. Heart rate was also measured with this instrument and digitally displayed. Blood pressures and heart rates were measured mid-morning at a resting state, using the left arm. Caution in interpretation is required with a single reading. This study did not attempt to screen for hypertension, but focused on correlations between blood pressure and heart rate measurements and scores obtained on the other instruments used in this study.

Demographic/stress questionnaire. This questionnaire was used to assess each subject's's perceived level of stressors and enhancers in various areas of graduate school life, including: financial situation, time management and availability, relationships with friends, peers, and faculty, academic coursework, clinical work, spirituality, and daily hassles. Items were rated on a scale of 1 to 6 (6 = great stress, 5 = moderate stress, 4 = slight stress, 3 = slight help, 3 = moderate help, and 1 = great help). Participants could also choose N/A for those items that were not applicable at the present time. In addition, the questionnaire included questions about age, gender, ethnicity, health status, marital status, living arrangements, and number of hours invested in school, practicum and work per week.

General health questionnaire. The General Health Questionnaire (GHQ) is a self-administered screening inventory designed to distinguish people with some form
of psychological disturbance from those who are relatively healthy. Five standard versions have been developed, consisting of 60, 30, 28, 20, and 12 items. The instrument used in this study is the 28-item North American version. The GHQ-28 yields a total score (GHQ-T) and four subscale scores: Somatic Symptoms (GHQ-A), Anxiety and Insomnia (GHQ-B), Social Dysfunction (GHQ-C), and Severe Depression (GHQ-D). Each subscale consists of seven items. Respondents rate themselves for each item on a 4-point Likert scale, indicating whether the symptom or item was experienced as "better than usual," "same as usual," "worse than usual," or "much worse than usual." Scoring of the GHQ has typically utilized a bimodal method, giving a score of 0 to each of the first two choices and a score of 1 to each of the last two choices. This method yields an area measure but not an intensity measure. Simple Likert scale values have also been used, with scores of 0, 1, 2, or 3 assigned accordingly. This provides both an area and an intensity measure. The simple Likert scale method was used in this research study (Goldberg, 1978; Vieweg & Hedlund, 1983).

The GHQ subscales were developed by principal components analysis and varimax rotations. Validity of the GHQ-28 is supported by many studies investigating the specificity and sensitivity of each scale (Goldberg, Rickels, Downing & Hesbacher, 1974; Harding, 1976; Mann, 1977; Tarnopolsky et al., 1979). The median specificity of the GHQ-28 was found to be .82, the median sensitivity .86, and the overall rate of misclassification was 11% (Goldberg, 1978). Goldberg (1978) found an average split-half reliability for all forms to be .95, and has reported reliability coefficients for test-retest reliability over a 6-month period with groups of psychiatric outpatients judged to be "about the same" ranging from .51 to .90. Correlations between the GHQ-28 and
various other psychiatric interview measures are generally reported as ranging from .70 to .83. (Goldberg, 1978; Vieweg & Hedlund, 1983).

**Multidimensional support scale.** The Multidimensional Support Scale (MDSS) is a 16-item self-report instrument designed to measure the availability and perceived adequacy of social support from various sources (Winfield, Winefield & Tiggemann, 1992). Perceived adequacy, or satisfaction with the amount of social support, has been found to be relatively independent of levels of availability and socially supportive behaviors received (Neuling & Winefield, 1988). Social support from confidants (family and closest friends), peers (those facing similar challenges), and “experts” (those with an official helping or supervisory role) are the three primary sources of social support assessed with this instrument. In this study, these three primary sources of social support were labeled as: a) family and close friends, b) peers in graduate school, and c) professors, advisors, mentors and/or supervisors.

Scoring the MDSS results in six subscales (availability and adequacy from each of the three sources). Alpha coefficients of internal reliability for the six subscales have been found to be characteristically .75 and above (Neuling & Winefield, 1988; Winefield, 1993; Winefield, Winefield & Tiggemann, 1992).

**COPE.** The COPE is a 60-item coping scale designed to assess 15 coping strategies or styles (Carver, Scheier & Weintraub, 1989). There are four items in each coping style category and each category has a possible range of scores from 4 to 16 (1 = “I usually don’t do this at all”; 2 = “I usually do this a little bit”; 3 = “I usually do this a medium amount”; 4 = “I usually do this a lot”). A brief summary of the coping style categories is described in Table 1. Positive coping strategies in the COPE are defined as: Active coping, Planning, Seeking Instrumental Social Support, Seeking Emotional Social Support, Suppression of Competing Activities, Religion, Positive
Table 1

Names and Descriptions of COPE scales

<table>
<thead>
<tr>
<th>Scales</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Reinterpretation and Growth</td>
<td>Making the best of the situation by growing from it, or viewing it in a more favorable light.</td>
</tr>
<tr>
<td>Active Coping</td>
<td>Taking action to remove or circumvent the stressor.</td>
</tr>
<tr>
<td>Planning</td>
<td>Thinking about how to confront the stressor, planning active coping efforts.</td>
</tr>
<tr>
<td>Seeking Emotional Social Support</td>
<td>Seeking sympathy or emotional support from another.</td>
</tr>
<tr>
<td>Seeking Instrumental Support</td>
<td>Seeking assistance, information, or advice about what to do.</td>
</tr>
<tr>
<td>Suppression of Competing Activities</td>
<td>Suppressing one’s attention to other activities to focus more fully on dealing with the stressor.</td>
</tr>
<tr>
<td>Religion Coping</td>
<td>Increased engagement in religious activities.</td>
</tr>
<tr>
<td>Acceptance</td>
<td>Accepting the fact that the stressful event has occurred and is real.</td>
</tr>
<tr>
<td>Mental Disengagement</td>
<td>Psychological disengagement through daydreaming, sleep, or self-distraction.</td>
</tr>
<tr>
<td>Focus on and Venting of Emotions</td>
<td>An increased awareness of one’s emotional distress, and a concomitant tendency to ventilate or discharge those feelings.</td>
</tr>
<tr>
<td>Behavioral Disengagement</td>
<td>Withdrawing effort from the attempt to attain the goal with which the stressor is interfering.</td>
</tr>
<tr>
<td>Denial</td>
<td>An attempt to reject the reality of the stressful event.</td>
</tr>
<tr>
<td>Restraint Coping</td>
<td>Coping passively by holding back one’s coping attempts until they can be of use.</td>
</tr>
<tr>
<td>Alcohol/Drug Use</td>
<td>Turning to the use of alcohol or other drugs as a way of disengaging from the stressor.</td>
</tr>
<tr>
<td>Humor</td>
<td>Making jokes about the stressor.</td>
</tr>
</tbody>
</table>
Reinterpretation and Growth, Restraint coping, Acceptance, and Humor. Negative coping strategies are defined as: Denial, Mental Disengagement, Behavioral Disengagement, and Alcohol/Drug Use. The coping strategy of Focus on and Venting of Emotions occupies an ambivalent status, and appears to be more situationally specific regarding functionality.

The COPE was derived theoretically, based on the belief that an individual’s coping is more a stable preference (trait) than an exclusively situation-specific adaptation (state) (Clark, Bormann, Cropanzano & James, 1995). For this particular study, the specific situational focus was on the graduate school experience in a Christian doctoral program of clinical psychology. The COPE was used to determine what coping strategies are used most commonly in this specific situation and also to compare individual trait preferences within this situation. In general, when attempting to differentiate coping dispositions from situational coping responses, the content described is the same but the frame of reference is altered to measure either what one usually does to cope with stress or what one did or is doing to cope in this situation. This study adapted the usual COPE protocol to ask what one usually does to cope with stress within the graduate school context (Carver, Scheier & Weintraub, 1989; Clark et al., 1995).

Factor analysis revealed the initial variables (Drug/Alcohol Use and Humor were not included originally, and should be considered exploratory at this time) in the COPE to be distinct, with two exceptions. The two Seeking Social Support scales loaded on a single factor, as did the Planning and Active Coping scales. For conceptual reasons, however, the authors kept these scales as separate factors (Clark et al., 1995). Internal consistency has been established with Cronbach’s alpha reliability coefficients, which were computed for each scale. Values ranged from .62 to
.92, with the exception of the Mental Disengagement scale, which was .45 (Carver et al., 1989). Test-retest reliabilities, using college students over six-week and eight-week intervals, ranged from .42 to .89 (Carver et al., 1989). These correlations suggest that coping tendencies measured by the COPE are relatively stable, but perhaps not as stable as personality traits (Carver et al., 1989; Clark et al., 1995).

Carver et al. (1989) suggested that in situations in which active coping efforts are necessary to yield positive outcomes, such as in graduate school, some coping styles are likely to be adaptive and some maladaptive. Adaptive coping styles included: Active Coping, Planning, Suppression of Competing Activities, Positive Reinterpretation and Growth, and Restraint Coping. Seeking Instrumental Social Support, Seeking Emotional Social Support, and Religion Coping were less explicitly associated with active coping, but likely to be helpful. The coping styles of Denial, Mental Disengagement, and Behavioral Disengagement were considered maladaptive. Focus on and Venting of Emotion was viewed by the authors as maladaptive in situations requiring active coping. In situations that are uncontrollable, it is unclear which coping tendencies would be most adaptive. (Carver et al., 1989).

Satisfaction with life scale. The Satisfaction With Life (SWL) Scale is a 5-item self-report questionnaire designed to measure the cognitive-judgmental aspect of subjective well-being as global life satisfaction (Diener et al., 1985). The SWL was administered to each subject. The SWL was not designed to tap into related well-being constructs, such as positive affect or negative affect. In fact, factor analysis indicates a single-factor construct (Lewis, Bunting, Shevlin & Joseph, 1995; Pavot & Diener, 1993; Shevlin & Bunting, 1994). Each item is scored from a range of 1 to 7 (1= strongly disagree to 7= strongly agree). A score of 20 represents the neutral point on
the scale, with 31-35 representing extremely satisfied and 5-9 representing extremely dissatisfied with life. Most groups fall in the range of 23-28 (Pavot & Diener, 1993).

In the initial study of the SWL scales's psychometric properties, it was found to have a two-month test-retest correlation coefficient of .82 and coefficient alpha of .87 (Diener, et. al., 1985). Correlations with a variety of other subjective well-being measures were moderate (Diener, et. al., 1985). Further studies have found average coefficient alphas of .83 (Pavot, Diener, Colvin & Sandvik, 1991). A review (Pavot & Diener, 1993) indicates coefficient alphas ranging from .79 to .89 and test-retest reliabilities from .50 to .84. In one study (Magnus, Diener, Fujita & Pavot, 1992), the test-retest reliability was .54 over a 4-year period. These results indicate relative stability in life satisfaction, which is also affected by changing life circumstances over time.

The SWL scale has been shown to negatively correlate with clinical measures of distress, neuroticism, and negative affectivity. It correlates positively with self-esteem, extroversion, marital status, health, and positive affectivity (Pavot & Diener, 1993).

Positive/negative affectivity scales. The Positive Affectivity (PEM) and Negative Affectivity (NEM) scales are subscales from the Multidimensional Personality Questionnaire (MPQ) (Tellegen, 1982). These particular higher order dimensions of the MPQ were derived from factor analysis. The PEM is primarily associated with the subscales of Well-being, Social Potency, and Achievement. The NEM is primarily associated with the subscales of Stress Reaction, Alienation, and Aggression. In this study, the brief forms of the PEM (11 items) and NEM (14 items) were used. The brief PEM items are gathered from the Well-being scale, and the brief NEM items are gathered from the Stress Reaction scale.
Means and standard deviations are not available for these brief measures. For the purposes of this study, however, comparison to norms is not of as much interest as comparison of the differences between PEM and NEM scores and their ratios for each individual, and the correlation of these magnitudes of difference with scores on the other instruments used in this study.

**Spiritual well-being scale.** The Spiritual Well-Being (SWB) Scale (Ellison, 1983; Paloutzian & Ellison, 1982) is a 20-item questionnaire designed to assess both religious (RWB) and existential (EWB) well-being. The RWB portion is comprised of odd numbered items, which all refer to God. This scale measures a vertical dimension of well-being in relation to God. The EWB portion is comprised of even numbered items which make no reference to God and measure a sense of life purpose and satisfaction without any specific religious reference. Three final scores are generated: a summed score for RWB items, a summed score for EWB items, and a total SWB score comprised of the sum of RWB and EWB scores. Each item is scored from 1 to 6, with higher scores reflecting greater well-being. Half of the items are worded negatively, to counteract response set, and reverse scoring is employed on these items. The full SWB scale was administered and all three scale scores utilized in data analysis.

Factor analysis of the SWB scale, using 206 students from three religiously oriented colleges, revealed that the items clustered together generally as expected (Paloutzian & Ellison, 1992). Reliability data computed from the original raw data (Brinkman, 1989, in Bufford, Paloutzian & Ellison, 1991) indicate mean test-retest coefficients of .96 (RWB), .89 (EWB), and .93 (SWB). Internal consistency coefficients averaged .88 (RWB), .83 (EWB), and .91 (SWB). Subsequent research has shown that the SWB scale has good validity as it has correlated positively with several
standard indicators of well-being. Establishment of construct validity has proved complex. Various factor analysis methods (Ledbetter, Smith, Fischer, Vosler-Hunter & Chew, 1991) indicated that fit for the original two-factor conceptualization, although a better fit than a one-factor model, was still quite poor, and makes interpretation of scores ambiguous.

Descriptive data was not provided with the original studies. Bufford, Paloutzian and Ellison (1991) provided descriptive data for a variety of later samples, including religious groups and college students. They found an overall mean of 51.35 (RWB), 50.5 (E WB), and 101.2 (SWB) for the religious groups. For college students, overall means were 44.0 (RWB), 46.2 (EWB), and 90.3 (SWB). Most graduate students in the Christian doctoral program in clinical psychology would consider themselves religious.

Research indicates that the SWB scale has a low ceiling effect, particularly with religious samples (Ledbetter, Smith, Vosler-Hunter & Fischer, 1991). Consequently, differentiation among high scorers is not feasible. The SWB scale has, however, demonstrated excellent ability to measure low scores, and its clinical usefulness is consequently limited to low scores.

Procedure

Initial contact for this study was made via school email inviting students to receive blood pressure and heart rate measurements and to complete and return the questionnaire packet as part of a health-day didactic session. Follow up contact was made via personal communication and the school email system. Questionnaire packets were distributed to each subject and informed consents signed before measuring blood pressure and heart rate. Each subject was instructed to refrain from writing their name on the packet itself to protect confidentiality. Blood pressure and heart rate measurements were then recorded on the packet and the packet handed
back to the subject to complete and return to the graduate psychology administrative assistant. The clinical director of the doctoral program posted current GPA's, GRE scores, and the presence or absence of a special commendation from faculty to each completed packet. Packets were assigned numbers and informed consents removed before data was then returned to this researcher.

Research Design and Data Analysis

Pearson correlation analysis, Independent Samples t-tests, regression analysis, and a one-way ANOVA were utilized to determine which variables were associated with and most contribute to success in the Christian doctoral program of clinical psychology. Correlational analyses were used between current GPA’s, GRE scores, special commendations, resting heart rate, blood pressure, reported stress, distress, positive and negative affect, social support, coping strategies, satisfaction with life, and spiritual well-being. Regression analysis was used to determine which variables provide the best prediction of GPA. T-tests and ANOVA were used to determine differences between males and females, between students with GPA’s equal to or greater than 3.8 and those with GPA’s equal to or less than 3.4, and between students with and without special commendations from faculty.
Chapter 3

Results

The results are presented in three main sections. Variables associated with academic success are examined first. Second, variables correlated with health and distress are addressed. Finally, additional findings are presented to examine relationships regarding stressors, social support, coping styles, satisfaction with life, spiritual well-being, and gender differences.

Academic Success

For purposes of this investigation, academic success was defined as a combination of current grade point average (GPA), Verbal (GRE-V), Quantitative (GRE-Q) and Total (GRE-T) Graduate Record Examination (GRE) scores, and the attainment of a faculty-awarded special commendation based on outstanding academic and clinical performance of graduate students.

Grade point averages. Pearson correlation analysis was employed to examine relationships between graduate students' current GPA and resting heart rate, blood pressure, reported stress, distress, social support, coping strategies, satisfaction with life, positive and negative affect, and spiritual well-being. Thirteen variables were significantly correlated with GPA. Those students with higher GPA’s were likely to report utilizing less denial coping (r (49) = -.42, p < .002), more religion coping (r (50) = .35, p < .010), more focus on and venting of emotions (r (50) = .33, p < .015), and more seeking of social support for emotional reasons (r (49) = .28, p < .044). Graduate students with higher GPA’s were also likely to report greater levels of support from family and close friends (r (50) = .32, p < .021) and less stress regarding
their spirituality ($r (50) = -.32, p < .020$). Female students were likely to have higher GPA's ($r (50) = .37, p < .007$). Furthermore, higher GPA's were correlated with higher GRE-V ($r (44) = .43, p < .003$) and GRE-T ($r (44) = .37, p < .011$) scores. In addition, higher GPA's were correlated with lower lower heart rate ($r (51) = -.32, p < .018$) and lower diastolic blood pressure ($r (51) = -.41, p < .002$), but more surgeries over a lifetime ($r (50) = .33, p < .017$) and more illnesses or trips to the doctor over the past two years ($r (51) = .28, p < .045$). Finally, higher GPA's were also correlated with greater stress regarding scholastic coursework ($r (51) = .36, p < .009$).

An Independent Samples t-test was employed to examine GPA scores as discrete independent variables. Graduate students were divided into three approximately equal groups according to GPA, with the top and bottom groups compared in a t-test. Group 1, with 20 students, consisted of those students with a GPA of 3.4 or less. Group 2, with 19 students, consisted of those students with a GPA of 3.8 or greater. As illustrated in Table 2, many of the same variables that had been correlated with GPA in the Pearson correlation analysis (i.e., less denial coping, more focus on and venting of emotion, more religion coping, less reported spiritual stress, more reported stress regarding scholastic coursework, lower diastolic blood pressure and greater levels of social support from family and close friends) also were affected significantly as demonstrated by the t-test. However, in the Independent Samples t-test the variables of surgery, resting heart rate, illness or trips to the doctor, and seeking emotional social support did not differ significantly for the high and low GPA groups. Results further indicated that students who had GPA's of 3.8 or greater had significantly lower levels of distress, measured by lower cumulative scores on the General Health Questionnaire (GHQ-T), and were employed outside of graduate
Table 2

Descriptive Statistics for Graduate students with GPA's of <3.4 (Group 1) and >3.8 (Group 2) with T-test Summaries.

<table>
<thead>
<tr>
<th>Health and Success</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>sig. (2 tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spiritual Stress</td>
<td>1</td>
<td>19</td>
<td>2.75</td>
<td>1.48</td>
<td>3.70</td>
<td>37</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>19</td>
<td>1.37</td>
<td>.68</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Denial Coping</td>
<td>1</td>
<td>19</td>
<td>5.37</td>
<td>1.50</td>
<td>3.06</td>
<td>35</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>18</td>
<td>4.22</td>
<td>.55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coursework Stress</td>
<td>1</td>
<td>20</td>
<td>4.35</td>
<td>.99</td>
<td>-3.03</td>
<td>37</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>19</td>
<td>5.11</td>
<td>.46</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Diastolic BP</td>
<td>1</td>
<td>20</td>
<td>82.25</td>
<td>8.74</td>
<td>2.96</td>
<td>37</td>
<td>.005</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>19</td>
<td>73.84</td>
<td>8.97</td>
<td></td>
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<td></td>
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<tr>
<td>Focus/Vent Emotion</td>
<td>1</td>
<td>19</td>
<td>8.68</td>
<td>2.83</td>
<td>-2.80</td>
<td>36</td>
<td>.008</td>
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<tr>
<td></td>
<td>2</td>
<td>19</td>
<td>11.37</td>
<td>3.08</td>
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<td></td>
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<tr>
<td>Religion Coping</td>
<td>1</td>
<td>19</td>
<td>9.58</td>
<td>3.58</td>
<td>-2.78</td>
<td>36</td>
<td>.009</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>19</td>
<td>12.74</td>
<td>3.43</td>
<td></td>
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</tr>
<tr>
<td>GRE-V</td>
<td>1</td>
<td>17</td>
<td>489.51</td>
<td>79.17</td>
<td>2.52</td>
<td>33</td>
<td>.017</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>18</td>
<td>556.11</td>
<td>77.24</td>
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<tr>
<td>GHQ-T</td>
<td>1</td>
<td>20</td>
<td>26.85</td>
<td>9.93</td>
<td>2.20</td>
<td>37</td>
<td>.034</td>
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<tr>
<td></td>
<td>2</td>
<td>19</td>
<td>20.68</td>
<td>7.30</td>
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<tr>
<td>Hrs Worked</td>
<td>1</td>
<td>20</td>
<td>17.30</td>
<td>10.97</td>
<td>2.18</td>
<td>37</td>
<td>.035</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>19</td>
<td>6.16</td>
<td>6.71</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MDSS-A</td>
<td>1</td>
<td>20</td>
<td>17.20</td>
<td>3.89</td>
<td>-2.04</td>
<td>36</td>
<td>.049</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>18</td>
<td>19.44</td>
<td>2.73</td>
<td></td>
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</tr>
</tbody>
</table>
school approximately half as much as students who had GPA's of 3.4 or less. Other
time commitments were not significantly different for the two groups.

Regression analysis was utilized to determine which variables contribute most
to higher GPA's among psychology graduate students in this study. Results indicated
that gender, religion coping, degree of stress in relationships with peers, seeking of
social support for instrumental reasons, GRE-V, and GRE-T scores all significantly
contributed to GPA (Table 3). Gender accounted for nearly 50% of the variance.
Gender plus the addition of religion coping, peer relationship stress, and coping by
seeking of instrumental social support together accounted for 95.8% of the total
variance. Although GRE-V and GRE-T were predictors of GPA, they together
accounted for less than 5% of the variance. Additionally, a one-way ANOVA indicated
that female students had significantly higher GPA's than male students
($F(1,50) = 7.92, p < .007$). Female students averaged a 3.7 GPA while male students'
average GPA was 3.5.

Graduate record examination scores. Pearson correlation analysis was
employed to examine relationships between graduate students' GRE-T, GRE-V, and
GRE-Q scores and their resting heart rate, blood pressure, reported stress, distress,
social support, coping strategies, satisfaction with life, positive and negative affect,
and spiritual well-being. GRE-T scores were positively correlated with GPA's
($r (44) = .37, p < .011$), GRE-V scores ($r (44) = .76, p < .001$), and GRE-Q scores
($r (44) = .88, p < .001$) and negatively correlated with systolic ($r (44) = -.43, p < .003$)
and diastolic ($r (44) = -.34, p < .020$) blood pressure. Furthermore, higher GRE-T
scores were correlated with more restraint coping ($r (43) = .41, p < .006$), less
alcohol/drug use ($r (43) = -.34, p < .021$), less denial ($r (42) = -.31, p < .043$), more
active coping ($r (42) = .31, p < .041$), and more religion coping ($r (43) = .30, p < .045$).
Table 3
variables that significantly contribute to GPA

<table>
<thead>
<tr>
<th>Regression Equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA = 3.306 + .366 (sex) + .0398 (cope7) + .167 (peer-rel) + -.0326 (cope5) + .00093 (GRE-V) + .00032 (GRE-T)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>F(6, 10) = 147.50, p &lt; .001</td>
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</table>

<table>
<thead>
<tr>
<th>R-squared</th>
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<td>GRE-T</td>
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Note: sex = gender; cope7 = religion coping; peer-rel = peer relationship stress; cope5 = seeking of social support for instrumental reasons.

Correlational analysis indicated similar patterns of correlations for GRE-V as for GRE-T scores (i.e., lower systolic blood pressure ($r (44) = -.46, p < .001$), higher GPA's ($r (44) = .43, p < .003$), higher GRE-Q scores ($r (44) = .39, p < .008$), more active coping ($r (42) = .38, p < .011$), more religion coping ($r (43) = .34, p < .021$), more restraint coping ($r (43) = .33, p < .029$), and less alcohol and drug use coping ($r (43) = -.32, p < .031$). However, diastolic blood pressure and coping through denial were not significantly correlated with graduate student GRE-V scores, thus should only be generalized with great caution. Additionally, higher GRE-V scores were correlated
with greater utilization of coping by positive reinterpretation and growth
($r (43) = .36, p < .016$), more focus on and venting of emotion ($r (43) = .30, p < .047$),
and fewer somatic symptoms as reported on the GHQ-A ($r (44) = -.31, p < .036$).
Higher graduate student GRE-V scores were, however, correlated with more surgeries
($r (43) = .31, p < .042$) and more illnesses or trips to the doctor ($r (44) = .34, p < .022$).
Furthermore, female graduate students were likely to have higher GRE-V scores
($r (43) = .36, p < .015$) than male graduate students.

Graduate students with higher GRE-Q scores were likely to report greater
utilization of restraint coping ($r (43) = .34, p < .021$), less use of denial
($r (42) = -.35, p < .021$), lower systolic blood pressure ($r (44) = -.29, p < .050$), and
higher levels of stress regarding relationships with supervisors ($r (44) = .37, p < .012$).
Finally, those graduate students with higher GRE-Q scores were also likely to be
younger ($r (42) = -.40, p < .008$) and to have significantly fewer children living at home
($r (43) = -.30, p < .043$).

**Special commendations.** An Independent Samples t-test was employed to
determine significant differences between those graduate students who did ($n = 11$)
and did not ($n = 41$) receive formal faculty commendations during their graduate
school experience. As explained earlier, these special commendations are awarded
after careful faculty review of each graduate student's academic and clinical work and
are based on outstanding performance in both domains. Results are presented in
Table 4. Overall, graduate students who had received a special commendation by
faculty had lower diastolic and systolic blood pressure and reported significantly less
spiritual stress, greater religious well-being, and less stress in relationships with
friends. If not married, students with special commendations were significantly less
likely to be seriously involved in a romantic relationship. Additionally, students with
Table 4

Descriptive Statistics for Graduate Students without (Group 1) and with (Group 2) Faculty Special Commendations with t-test Summaries.

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Table 4 continued

Descriptive Statistics for Graduate Students without (Group 1) and with (Group 2) Faculty Special Commendations with t-test Summaries.

<table>
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<th>Group</th>
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<th>SD</th>
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<th>df</th>
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<td>.74</td>
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</table>
special commendations reported utilizing significantly more coping by suppression of competing activities, more exercise of restraint, and less utilization of mental disengagement. Furthermore, students receiving faculty commendation reported receiving significantly more social support from peers, with greater levels of satisfaction with that support. Finally, these students had significantly higher GPA’s and reported significantly greater stress regarding dissertations.

**Summary of academic success.** The profile of a successful graduate student, determined by variables significantly related to higher GPA, higher GRE scores, and the presence of a special commendation from faculty, is multifaceted. Graduate students with higher success in one or several of these domains were likely to have lower blood pressure, lower resting heart rate, and fewer children living at home. In addition, they were likely to be younger and less seriously involved in a romantic relationship if not married. These students were likely to report fewer somatic symptoms, as indicated by lower GHQ-A scores, and less overall psychological distress, as indicated by lower scores on the GHQ-T. However, students with higher perceived academic success were likely to report more surgeries over their lifetime and more illnesses or trips to the doctor over the past two years.

In regard to coping styles, graduate students with higher levels of success were likely to report using significantly more religion coping, focus on and venting of emotion, restraint, active coping, seeking of emotional social support, positive reinterpretation and growth, and suppression of competing activities. Additionally, these students were likely to report using significantly less denial coping, less mental disengagement, and less alcohol and drugs.

Graduate students with higher levels of success were also likely to report less stress regarding their spirituality and their relationships with friends, but more stress
regarding scholastic coursework, dissertation work, and relationships with supervisors. Furthermore, these students were likely to report more social support from family and close friends and more social support from peers, along with significantly greater levels of satisfaction with their peer support. Finally, graduate students with greater levels of success were likely to female and to report greater religious well-being and higher levels of employment outside of graduate school.

A regression analysis indicated that gender, religion coping, peer relationship stress, coping by seeking instrumental social support, GRE-V scores, and GRE-T scores were significantly predictive of GPA. Approximately 49% of the variability predicting GPA was attributed to gender, 19% to religion coping, 22% to peer relationship stress, 6% to seeking of instrumental social support, and 4% to GRE scores.

Health and Distress

Health and distress variables in this study included both physical health measures (systolic and diastolic blood pressure and resting heart rate) and psychological health measures (GHQ total (GHQ-T) and subscale scores). GHQ subscales included somatic symptoms (GHQ-A), anxiety and insomnia (GHQ-B), social dysfunction (GHQ-C), and severe depression (GHQ-D).

Physical health measures. Physical measurements of systolic and diastolic blood pressure and resting heart rate were examined using Pearson correlation analysis. As indicated previously, lower systolic blood pressure was correlated with higher GRE-V and GRE-T scores. Additionally, lower systolic blood pressure was also correlated with higher GRE-Q scores ($r (44) = -.29, p < .050$) and lower diastolic blood pressure ($r (51) = .55, p < .001$). Lower systolic blood pressure was correlated with greater use of focus on and venting of emotions ($r (50) = -.40, p < .004$), greater use of
positive reinterpretation and growth ($r (50) = -.26, p < .048$), more stress from dissertation work ($r (51) = -.27, p < .049$), more stress from financial situation ($r (51) = -.32, p < .018$), and more stress from daily hassles ($r (51) = -.35, p < .011$).

Finally, females were likely to have lower systolic blood pressure ($r (50) = -.49, p < .001$).

As stated previously, lower diastolic blood pressure was correlated with higher GPA's, higher GRE-T scores, and lower systolic blood pressure. Lower diastolic blood pressure was also correlated with lower resting heart rates ($r (51) = .32, p < .019$), greater satisfaction with life ($r (50) = -.37, p < .007$), greater existential well-being ($r (48) = -.32, p < .025$), and greater utilization of focus on and venting of emotion ($r (50) = -.35, p < .011$), positive reinterpretation and growth ($r (50) = -.42, p < .002$), and planning ($r (50) = -.30, p < .034$). In addition, lower diastolic blood pressure was correlated with more hours spent at practicum ($r (50) = -.38, p < .006$), more hours spent working on dissertations ($r (51) = -.28, p < .041$), and less utilization of behavioral disengagement as a coping style ($r (51) = .42, p < .002$). Furthermore, as with systolic blood pressure, females were likely to have lower diastolic blood pressure ($r (50) = -.31, p < .026$).

As reported earlier, lower resting heart rate was correlated with lower diastolic blood pressure and higher GPA's. Lower resting heart rate was also correlated with being married ($r (51) = -.30, p < .032$), being further along in the program ($r (49) = -.44, p < .001$), and being likely to extend expected date of program completion ($r (50) = -.36, p < .008$). Furthermore, lower resting heart rate was correlated with greater stress regarding dissertation work ($r (51) = -.42, p < .002$), greater levels of social support from family and close friends ($r (50) = -.28, p < .042$), and a higher ratio of positive to negative affect ($r (42) = -.37, p < .013$).
Psychological health measures. GHQ scores were all significantly correlated with each other. GHQ-T scores had correlational coefficients with subscale scores ranging from .73 to .81, all at <.001 level of significance. Correlational coefficients among subscales ranged from .31 to .67 with levels of significance of <.026 or less.

Higher GHQ-T scores (indicating higher levels of psychological distress) were correlated with greater stress in relationships with professors ($r(51) = .31, p < .023$), supervisors ($r(50) = .32, p < .021$), and friends ($r(51) = .28, p < .041$). Higher GHQ-T were also correlated with fewer contacts with mentors or professors ($r(50) = -.38, p < .006$) and greater levels of stress regarding practicum placements ($r(50) = .44, p < .002$). Additionally, higher GHQ-T scores were correlated with greater stress regarding spirituality ($r(50) = .55, p < .001$) and less existential well-being ($r(48) = -.39, p < .008$). Furthermore, higher GHQ-T scores were correlated with not using the coping styles of planning ($r(50) = -.28, p < .048$) and seeking of social support for emotional reasons ($r(49) = -.36, p < .009$). Finally, higher GHQ-T scores were correlated with less social support from family and close friends ($r(50) = -.40, p < .004$), lower levels of positive affectivity ($r(48) = -.50, p < .001$), lower ratios of positive to negative affectivity ($r(42) = -.48, p < .001$), and higher levels of negative affectivity ($r(48) = .40, p < .004$).

As previously reported, higher levels of somatic symptoms (GHQ-A) were correlated with lower GRE-V scores. Higher GHQ-A scores were also correlated with lower levels of positive affectivity ($r(48) = -.30, p < .035$), greater stress regarding relationships with professors ($r(51) = .29, p < .037$) and greater stress regarding their spirituality ($r(50) = .35, p < .012$).

Higher levels of anxiety and insomnia (GHQ-B) were correlated with higher stress regarding financial situation ($r(51) = .32, p < .019$), management and
availability of time (r (51) = .28, p < .047), and spirituality (r (50) = .28, p < .044).
Additionally, higher GHQ-B scores were correlated with higher levels of negative affectivity (r (48) = .54, p < .001) and lower ratios of positive to negative affectivity (r (42) = -.51, p < .001). Further, higher GHQ-B scores were correlated with lower levels of social support from family and close friends (r (50) = -.39, p < .004) and with lower satisfaction regarding that support (r (45) = -.31, p < .037).

Greater social dysfunction (GHQ-C) among graduate students was correlated with greater stress regarding relationships with friends (r (51) = .39, p < .004), less social support from peers (r (50) = -.30, p < .034), greater stress regarding spirituality (r (50) = .41, p < .003), and decreased existential well-being or sense of life purpose and satisfaction (r (48) = -.41, p < .003). Additionally, higher GHQ-C scores were correlated with greater stress regarding practicum placements (r (48) = .43, p < .002), relationships with supervisors (r (50) = .35, p < .012), and work with clients (r (51) = .36, p < .009), as well as less contact time with mentors or professors (r (50) = -.38, p < .005). Furthermore, higher GHQ-C scores were correlated with higher levels of negative affectivity (r (48) = .28, p < .047) and lower ratios of positive to negative affectivity (r (42) = -.41, p < .005). Finally, coping profiles among graduate students indicated that higher GHQ-C scores were correlated with less positive reinterpretation and growth (r (50) = -.33, p < .017), less suppression of competing activities (r (50) = -.33, p < .016), less planning (r (50) = -.44, p < .006), and less seeking of support for emotional reasons (r (49) = -.38, p < .006).

Greater levels of severe depression (GHQ-D) among graduate students was correlated with higher stress regarding practicum placements (r (48) = .40, p < .004), greater stress in relationships with supervisors (r (50) = .38, p < .006), less contact with mentors or professors (r (50) = -.36, p < .009), and lower levels of social support from
professors, advisors, mentors and/or supervisors ($r(50) = -.44, p < .001$). Those students with higher GHQ-D scores were also likely to report greater stress in their relationships with their friends ($r(51) = .43, p > .001$) and lower levels of social support from family and close friends ($r(50) = -.40, p < .003$). Additionally, higher GHQ-D scores were correlated with higher stress regarding daily hassles ($r(51) = .29, p < .034$), higher stress regarding spirituality ($r(50) = .65, p < .001$), less existential well-being ($r(48) = -.49, p < .001$), and less spiritual well-being ($r(48) = -.32, p < .024$). Furthermore, students with higher GHQ-D scores were likely to report higher levels of negative affectivity ($r(48) = .36, p < .010$), lower levels of positive affectivity ($r(48) = -.41, p < .003$), and lower ratios of positive to negative affectivity ($r(42) = -.33, p < .030$). Finally, higher GHQ-D scores were correlated with less planning ($r(50) = -.39, p < .004$), less seeking of emotional social support ($r(49) = -.34, p < .014$), and less suppression of competing activities ($r(49) = -.37, p < .007$).

**Summary of health and distress.** Six variables were related to the physical health measures of lower heart rates and lower systolic and diastolic blood pressure, in at least two of these three measures. These variables were higher GPA’s, higher GRE-T scores, greater utilization of the coping styles of focus on and venting of emotion and positive reinterpretation and growth, increased stress regarding dissertation work, and being female.

Variables associated with increased psychological distress for graduate students in at least two of the five GHQ scales included the following. Increased stress regarding spirituality was correlated with higher scores on all five of the GHQ scales. Increased negative affectivity (NEM) and a lower ratio of positive to negative affectivity (PEM/NEM) were correlated with higher scores on four GHQ scales. Decreased PEM,
decreased social support from family and close friends, increased stress in relationships with friends and with supervisors, decreased contact with mentors or professors, and decreased utilization of the coping style of seeking emotional social support were correlated with higher scores on three of the GHQ scales. Finally, increased stress in relationships with professors and decreased utilization of suppression of competing activities were correlated with higher scores on two of the GHQ scales.

Additional Findings

Utilizing Pearson correlational analysis and descriptive statistics, other variables were examined including perceived stressors, social support, coping styles, satisfaction with life, spiritual well-being, and gender differences.

Stressors. Multiple stressors/enhancers were rated by graduate students according to whether each item was a source of stress and worry, or of help and a moderation of stress (see Table 5). The highest stressors were scholastic coursework, dissertation work, and financial situation followed by internship expectations and application process, practicum placement, daily hassles, time management/availability and work with clients. As reported earlier, stress regarding scholastic coursework and dissertation work were likely to be increased for those graduate students with higher levels of success. Variables rated by participants as most helpful in moderating stress, in descending order, were relationships with friends, relationships with peers, personal spirituality, and relationships with mentors, supervisors and professors.

Social support. Graduate students reported amount of social support and satisfaction with that support for three primary domains. First, MDSS-A scores indicated the amount of perceived social support from family and close friends, with
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<tr>
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<td>13.6</td>
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<td>3.8</td>
<td>5.8</td>
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<td>Peer Rel Stress (53)</td>
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<td>.91</td>
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<td>28.3</td>
<td>22.6</td>
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<tr>
<td>Friend Rel Stress (53)</td>
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<td>1.00</td>
<td>.91</td>
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<td>66.0</td>
<td>22.6</td>
<td>9.4</td>
<td>1.9</td>
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Note: n is in parentheses for all items. (1=great help; 2=moderate help; 3=slight help; 4=slight stress; 5=moderate stress; 6=great stress)
LIKE-A scores indicating the degree of satisfaction with that support. Second, MDSS-B was the measure of social support from peers, and third, MDSS-C measured social support from faculty, with LIKE-B and LIKE-C the respective measures of satisfaction. As indicated in Table 6, graduate students relied most on social support from family and close friends and were also the most satisfied with this support. Equal amounts of support were reportedly received from peers and faculty, but students were considerably less satisfied with faculty support than with peer support.

As reported previously, correlation analysis indicated that higher levels of social support from family and close friends were correlated with lower scores on GHQ-B, GHQ-D, and GHQ-T scales and higher GPA's. Additionally, higher levels of social support were correlated with being younger (r (49) = -.28, p < .045), having more contact with mentors/professors outside of the classroom (r (49) = .28, p < .048), less spiritual stress (r (50) = -.51, p < .001), less stress from relationships with friends (r (50) = -.38, p < .006), greater positive affectivity (r (47) = .37, p < .009), greater existential well-being (r (47) = .34, p < .019), less utilization of denial (r (48) = -.30, p < .036), and lower heart rate (r (50) = -.28, p < .042). Furthermore, students reporting higher levels of support from family and close friends were also likely to report greater satisfaction with that support (r (45) = .55, p < .001) as well as greater levels of support from peers (r (50) = .29, p < .041) and from faculty (r (50) = .28, p < .042).

Graduate students who were more satisfied with the level of social support from family and close friends were likely to report lower GHQ-B scores and greater spiritual well-being, as mentioned earlier. These students were also likely to report greater contact with mentors-professors (r (44) = -.34, p < .022), less stress from relationships with professors (r (45) = -.29, p < .050), and greater satisfaction with faculty support
### Table 6

**Means and Standard Deviations for Social Support Categories**

<table>
<thead>
<tr>
<th>Items</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
<th>%</th>
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<tbody>
<tr>
<td>MDSS -A</td>
<td>52</td>
<td>18.31</td>
<td>3.29</td>
<td>13.0 (11-24)</td>
<td>76</td>
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<td>MDSS - B</td>
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<td>12.92</td>
<td>3.64</td>
<td>14.0 (6-20)</td>
<td>65</td>
</tr>
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<td>MDSS - C</td>
<td>52</td>
<td>13.02</td>
<td>3.42</td>
<td>15.0 (5-20)</td>
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<td>LIKE - A</td>
<td>47</td>
<td>15.15</td>
<td>3.20</td>
<td>11.0 (7-18)</td>
<td>84</td>
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<tr>
<td>LIKE - B</td>
<td>47</td>
<td>12.23</td>
<td>3.67</td>
<td>10.0 (5-15)</td>
<td>82</td>
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<td>LIKE - C</td>
<td>46</td>
<td>10.80</td>
<td>3.55</td>
<td>10.0 (5-15)</td>
<td>72</td>
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</table>

Note: Possible ranges were for MDSS-A category (6 to 24), for MDSS-B and MDSS-C (5-20), for LIKE-A (6-18) and for LIKE-B and LIKE-C (5-15). The % column represents the percentage of full social support or satisfaction represented by the mean in that category.

\[ r(43) = .31, p < .040 \]. Additionally, graduate students who were more satisfied with the level of social support from family and close friends were likely to report greater utilization of seeking of social support for instrumental reasons \( r(45) = .35, p < .016 \) and less use of denial coping \( r(44) = -.40, p < .006 \).

Greater social support from peers was correlated with greater numbers of total hours spent in graduate school activities \( r(50) = .30, p < .032 \), less stress in relationships with peers \( r(50) = -.53, p < .001 \) and friends \( r(50) = -.29, p < .039 \), and greater satisfaction with peer support \( r(45) = .64, p < .001 \). As previously stated, those graduate students reporting greater peer support were also likely to have lower GHQ-C scores and to report greater levels of support from family and close friends.
Graduate students who reported greater satisfaction with peer support were likely to report less stress in peer relationships ($r (45) = -.41, p < .005$), greater numbers of hours spent in class ($r (45) = .45, p < .001$), study ($r (45) = .33, p < .022$) and total graduate school activities ($r (45) = .36, p < .013$), and less utilization of positive reinterpretation and growth ($r (45) = -.33, p < .025$) and active coping ($r (44) = -.32, p < .030$).

Graduate students who reported higher levels of support from faculty, as previously indicated, were likely to report lower scores on the GHQ-D and higher levels of support from family and close friends. In addition, these students were likely to report greater satisfaction with faculty support ($r (44) = .63, p < .001$), more contact with mentors/professors outside of the classroom ($r (49) = .40, p < .003$), more hours spent in class ($r (50) = .40, p < .003$), more total hours spent in graduate school activities ($r (50) = .28, p < .042$), less spiritual stress ($r (50) = -.30, p < .030$), and more utilization of positive reinterpretation and growth ($r (49) = .33, p < .017$). Finally, graduate students reporting greater levels of support from faculty also were likely to report greater existential ($r (47) = .49, p < .001$) and spiritual ($r (47) = .28, p < .048$) well-being.

Greater satisfaction with support from professors was correlated with fewer children living at home with the graduate student ($r (44) = -.31, p < .040$), fewer surgeries ($r (44) = .40, p < .007$), fewer expected years to complete the graduate program ($r (43) = -.33, p < .029$), more hours spent in class ($r (44) = .33, p < .028$), more contact with mentors/professors outside of the classroom ($r (43) = .44, p < .002$), less stress in relationships with professors ($r (44) = -.32, p < .031$), less active coping ($r (43) = -.37, p < .012$), and less denial ($r (43) = -.48, p < .001$).
Coping styles. Descriptive statistics regarding coping styles utilized by graduate school students are presented in Table 7. Results indicated that the coping style graduate students reported utilizing the most was positive reinterpretation and growth. Students reported utilizing planning, active coping, and seeking emotional social support from "a medium amount to a lot." Additionally, focus on and venting of emotions, restraint coping, acceptance, seeking instrumental social support, and religion were reportedly utilized a "medium amount" by students. Furthermore, students reported utilizing mental disengagement, suppression of competing activities and humor "a little bit." Finally, graduate students reported that they did not typically utilize alcohol and drugs, denial, or behavioral disengagement.

Satisfaction with life. Scores from the Satisfaction with Life (SWL) scale were examined with Pearson correlation analysis. Possible scores on the SWL scale ranged from 5 (strongly disagree on each item) to 35 (strongly agree on each item) regarding life satisfaction. Graduate students in this study achieved a mean score of 24.27, with a standard deviation of 6.15, indicating "slight agreement" that they were satisfied with their lives. This mean score falls within the average range of 23-28 reported by Pavot & Diener (1993). Graduate student with higher SWL scale scores were likely to have fewer children ($r (49) = - .29, p < .042$) and lower diastolic blood pressure ($r (50) = - .37, p < .007$) and to report less denial ($r (49) = - .30, p < .035$), less mental disengagement ($r (50) = - .28, p < .049$), and higher positive affectivity ($r (47) = .43, p < .002$). Higher SWL scale scores also were correlated with less stress regarding professional relationships ($r (50) = - .31, p < .027$), management/availability of time ($r (50) = - .35, p < .011$), and spirituality ($r (50) = - .27, p < .050$). Additionally, higher SWL scale scores were correlated with greater satisfaction with the social
Table 7

Means, Standard Deviations and Ranges for Coping Styles

<table>
<thead>
<tr>
<th>Items</th>
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<th>SD</th>
<th>Range</th>
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</thead>
<tbody>
<tr>
<td>Positive reinterpretation/growth</td>
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<td>12.96</td>
<td>2.39</td>
<td>11.0 (7-18)</td>
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<tr>
<td>Planning</td>
<td>52</td>
<td>12.92</td>
<td>2.58</td>
<td>11.0 (5-16)</td>
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<tr>
<td>Active coping</td>
<td>51</td>
<td>12.33</td>
<td>2.33</td>
<td>11.0 (5-16)</td>
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<tr>
<td>Seek emotional SS</td>
<td>51</td>
<td>12.20</td>
<td>2.90</td>
<td>10.0 (6-16)</td>
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<tr>
<td>Religion</td>
<td>52</td>
<td>11.10</td>
<td>3.68</td>
<td>15.0 (1-16)</td>
</tr>
<tr>
<td>Seek instrumental SS</td>
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<td>11.02</td>
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<td>10.0 (6-16)</td>
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<tr>
<td>Acceptance</td>
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<tr>
<td>Restraint coping</td>
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<td>10.12</td>
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<tr>
<td>Focus on and venting of emotions</td>
<td>52</td>
<td>10.04</td>
<td>3.21</td>
<td>12.0 (4-16)</td>
</tr>
<tr>
<td>Humor</td>
<td>52</td>
<td>9.98</td>
<td>3.15</td>
<td>12.0 (4-16)</td>
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<tr>
<td>Suppression of competing activities</td>
<td>52</td>
<td>9.85</td>
<td>2.20</td>
<td>10.0 (4-14)</td>
</tr>
<tr>
<td>Mental disengagement</td>
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<td>9.28</td>
<td>2.06</td>
<td>9.0 (5-14)</td>
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<tr>
<td>Behavioral disengagement</td>
<td>53</td>
<td>5.85</td>
<td>1.73</td>
<td>6.0 (4-10)</td>
</tr>
<tr>
<td>Denial</td>
<td>51</td>
<td>4.71</td>
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<tr>
<td>Alcohol/drug use</td>
<td>52</td>
<td>4.62</td>
<td>1.50</td>
<td>9.0 (4-13)</td>
</tr>
</tbody>
</table>

Note: Response scores for coping categories had a possible range from 4 to 16.

support of family and close friends ($r (45) = .43, p < .002$) and higher levels of existential well-being ($r (47) = .36, p < .011$).
Spiritual well-being. Scores from the Spiritual Well-Being (SWB) scale were examined with Pearson correlational analysis. The SWB scale includes two subscales: a) Religious Well-Being (RWB) and b) Existential Well-Being (EWB). The highest possible scores are 60 for RWB and EWB and 120 for SWB. Graduate students in this study had mean scores for RWB, EWB and SWB of 49.0, 48.6 and 98.4 respectively. These mean scores fell just below previously established means for religious groups and just above those for college students.

Results from this study indicated that higher scores in SWB were correlated with higher scores in RWB ($r(48) = .91, p < .001$) and EWB ($r(48) = .85, p < .001$). Further, higher scores in RWB were correlated with higher scores in EWB ($r(48) = .54, p < .001$). Graduate students with higher SWB scores were likely to receive lower scores on the GHQ-D scale ($r(48) = -.32, p < .024$) and to report more hours of study ($r(48) = .34, p < .017$), less stress regarding peer relationships ($r(48) = -.41, p < .003$), and decreased negative affectivity ($r(46) = -.35, p < .015$).

Coping styles that were significantly correlated with higher SWB scores included less mental ($r(48) = -.36, p < .011$) and behavioral ($r(48) = -.33, p < .021$) disengagement, and more planning ($r(47) = .49, p < .001$), religion coping ($r(47) = .62, p < .001$), restraint coping ($r(47) = .49, p < .001$), positive reinterpretation and growth ($r(48) = .42, p < .003$), and active coping ($r(46) = .35, p < .014$).

Higher scores on the EWB scale were correlated with lower GHQ-D ($r(48) = -.49, p < .001$), GHQ-C ($r(48) = -.41, p < .003$), and GHQ-T ($r(48) = -.37, p < .008$) scores. Students with higher EWB scores were likely to report higher levels of positive affectivity ($r(46) = .40, p < .005$), higher ratios of positive to negative affectivity ($r(40) = .32, p < .036$), and lower levels of negative affectivity ($r(46) = -.36, p < .012$). Additionally, students with higher EWB scores were likely to
Health and Success

report greater social support from family and close friends \((r (47) = .34, p < .019)\) and from professors, advisors, mentors and/or supervisors \((r (47) = .49, p < .001)\). Higher EWB scores were correlated with less stress from relationships with peers \((r (48) = -.41, p < .003)\) and work with clients \((r (48) = -.30, p < .033)\), and a greater number of course hours \((r (48) = .31, p < .031)\) and total number of hours invested each week on school and work related activities \((r (48) = .35, p < .014)\). Furthermore, graduate students with higher EWL scores were likely to have lower diastolic blood pressure \((r (48) = -.32, p < .025)\) and to report greater satisfaction with life \((r (47) = .36, p < .011)\). Finally, higher EWB scores were correlated with less mental \((r (48) = -.40, p < .004)\) and behavioral \((r (48) = -.38, p < .006)\) disengagement and more planning \((r (47) = .38, p < .007)\) and restraint coping \((r (47) = .34, p < .018)\).

Higher RWB scores among graduate students were correlated with more time spent studying \((r (49) = .37, p < .007)\), less involvement in committed relationships for those students who were unmarried \((r (16) = -.62, p < .006)\), and fewer years in the program \((r (47) = -.35, p < .014)\). Those students with higher RWB scores were likely to report more stress regarding their financial situation \((r (49) = .33, p < .017)\) and less stress regarding peer relationships \((r (49) = -.37, p < .008)\) and their spirituality \((r (48) = -.41, p < .003)\). Additionally, higher RWB scores were correlated with the use of more religion coping \((r (48) = .57, p < .001)\), more positive reinterpretation and growth \((r (48) = .44, p < .001)\), more active coping \((r (47) = .41, p < .004)\), more planning \((r (48) = .40, p < .004)\), more restraint coping \((r (48) = .40, p < .004)\), and more suppression of competing activities \((r (48) = .31, p < .028)\).

Gender differences. This study included 26 female students, 26 male students, and one student who did not indicate gender. Means, standard deviations, and ranges for males, females, and the total sample on all variables are listed in Table 8.
Table 8

Means, Standard Deviations and Ranges Between Males and Females on All Variables

<table>
<thead>
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<th></th>
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<th>Female</th>
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Table 8 continued

Means, Standard Deviations and Ranges Between Males and Females on All Variables

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<tr>
<th></th>
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<td>4.9</td>
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</table>
### Means, Standard Deviations and Ranges Between Males and Females on All Variables

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Table 8 continued

Means, Standard Deviations and Ranges Between Males and Females on All Variables

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**Means, Standard Deviations and Ranges Between Males and Females on All Variables**

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Table 8 continued

Means, Standard Deviations and Ranges Between Males and Females on All Variables

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Table 8 continued

Means, Standard Deviations and Ranges Between Males and Females on All Variables

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<td>Range</td>
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<td>GRE-Total</td>
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<td>.25</td>
<td>3.2-4.0</td>
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Note: All hours and contacts are calculated in hours or times per week.
Pearson correlation analysis was utilized to examine gender differences. Overall, female graduate students were more likely to have higher GPA’s ($r \ (50) = .37, p < .007$), higher GRE-V scores ($r \ (43) = .36, p < .015$), and lower systolic ($r \ (50) = -.49, p < .001$) and diastolic ($r \ (50) = -.31, p < .026$) blood pressure. Female students were likely to report more surgeries over a lifetime ($r \ (49) = .31, p < .025$) and illnesses or trips to the doctor over the past two years ($r \ (50) = .29, p < .035$).

Additionally, female graduate students were likely to have more children living at home ($r \ (49) = .42, p < .002$) and to report higher levels of stress regarding time management and availability ($r \ (50) = .36, p < .010$). Furthermore, female graduate students were likely to use more planning ($r \ (50) = .33, p < .017$), seeking emotional social support ($r \ (49) = .51, p < .001$), and focus on and venting of emotion ($r \ (50) = .44, p < .001$) as coping styles.

Female graduate students in this study received 54.5% of the special commendations awarded, and 73.7% of the > 3.8 GPA’s. As mentioned earlier, gender accounted for almost 50% of the variance in the regression analysis. Additionally, since both gender and the coping style of focus on and venting of emotion were significantly correlated with GPA, a partial correlation was conducted between GPA and focus on and venting of emotion, controlling for gender. The partial correlations indicated that gender accounts for the correlation between focus on and venting of emotion and GPA ($r \ (47) = .21, NS$). The coping styles of focus on and venting of emotion did, however, contribute to the correlation between gender and GPA.

**Racial differences.** Due to the small number of minority students included in this sample, variables associated with racial identity are not addressed in this study.
In the present study, multiple measures were utilized to assess relationships between graduate students’ GPA’s, GRE scores, special commendations, resting heart rate, blood pressure, reported stress, distress, social support, coping strategies, satisfaction with life, positive and negative affect, and spiritual well-being. Particular attention was focused on variables that were correlated with graduate student success as measured by higher GPA’s, higher GRE scores, and the acquisition of a special commendation from graduate psychology faculty members. It was hypothesized that students who experience higher levels of graduate success would be likely to have: a) lower resting heart rates, b) lower blood pressure, and report: c) less stress, d) less distress, e) higher levels of social support, f) more of the “positive” and fewer of the “negative” coping strategies, g) higher levels of satisfaction with life, h) more positive and less negative affect, and i) greater spiritual well-being.

Academic Success

The results indicated 31 variables that were correlated with higher levels of success among graduate students. Variables that correlated with higher scores in three of the six success measures included: increased religion coping, increased restraint coping, increased coping by focus on and venting of emotions, decreased denial coping, decreased stress regarding spirituality, lower systolic blood pressure, and lower diastolic blood pressure. Variables that correlated with higher scores in two of the six success measures included: increased support from family and close friends, increased active coping, decreased use of alcohol or drugs, increased stress
regarding scholastic coursework, being female, increased number of surgeries over a lifetime, and increased illnesses or trips to the doctor over the past two years.

The last two findings were not predicted by the hypothesis. These findings are possibly indicative of proactive self care on the part of more successful students, demonstrated by increased seeking of medical care and support when needed. On the other hand, students who achieve higher levels of graduate success may do so at the expense of their physical health, and consequently experience increased illnesses and physical symptoms which require greater numbers of visits to the doctor and greater numbers of surgeries. Additionally, females reported significantly more surgeries and more illness or trips to the doctor than did males. Females also had significantly higher GPA's than did their male counterparts. Further research is needed to determine whether surgeries and illness or trips to the doctor are better accounted for by being female or by academic success.

The following variables were correlated with graduate student success in only one of the six success measures. Graduate students with higher GRE-V scores were more likely to report fewer somatic symptoms as measured by the GHQ-A and greater utilization of positive reinterpretation and growth. Graduate students with higher GPA's were likely to report increased seeking of emotional social support and decreased heart rate. Additionally, those students with GPA's of 3.8 or above, compared to those students with GPA's of 3.4 or less, reported significantly lower GHQ-T scores and significantly fewer hours worked outside of school activities.

Furthermore, those graduate students who had received a special commendation from faculty, compared to students who had not, reported utilizing significantly more suppression of competing activities, less use of mental disengagement, increased levels of social support from peers, greater satisfaction with
peer support, decreased stress in relationships with friends, increased stress regarding dissertation work, increased religious well-being, and less involvement in romantic relationships among those who were not married. Finally, students with higher GRE-Q scores were likely to be younger, have fewer children living at home, and report greater stress in relationships with supervisors.

Physical Health

Results of blood pressure and heart rate measurements indicated six variables correlated with at least two of the three physical health measures. Students with lower blood pressure and/or heart rates were likely to have higher GPA's and GRE-T scores, to be female, and to report increased use of focus on and venting of emotion, increased use of positive reinterpretation and growth, and increased stress regarding dissertations. The correlation between lower heart rate or blood pressure and increased stress regarding dissertations was unexpected. Also contrary to expectation, results indicated that increased stress regarding finances and daily hassles was correlated with lower heart rate or blood pressure in one of the physical health measures. None of these physical health measure were correlated with reports of decreased stress. It is also interesting that graduate students with lower blood pressure or heart rate were not likely to report less distress as measured by any of the five GHQ measures.

Previous research has indicated that baseline blood pressures were the strongest predictors of the future development of hypertension (Skarfors, Lithell & Selinus, 1991). This would suggest that blood pressure levels below the hypertensive range may also be indicative of future health status. However, caution in interpretation of solitary heart rate and blood pressure measurements must be exercised. Future research should include multiple blood pressure and heart rate measurements on
each subject for more accurate representation of their average blood pressure and heart rate before any inferences about comparative cardiovascular health status are drawn.

**Psychological Health**

Graduate students with greater psychological health or less distress, defined as lower General Health Questionnaire (GHQ) scores, were likely to report lower levels of stress regarding their spirituality and in their relationships with professors, supervisors, and friends. These students also were likely to report more contacts with mentors or professors, more social support from family and close friends, more social support from peers, more social support from faculty, and more satisfaction with the support they received from family and close friends. In addition, graduate students with lower GHQ scores were likely to report less stress regarding their practicum placements, their work with clients, their financial situation, the availability/management of time, and daily hassles. Furthermore, students with lower GHQ scores were likely to report utilizing more planning, more seeking of emotional social support, more suppression of competing activities, and more positive reinterpretation and growth. These students also were likely to report more positive affectivity, less negative affectivity, and a higher ratio of positive to negative affectivity. Finally, graduate students with lower GHQ scores were likely to report greater existential and spiritual well-being.

The only variable correlated with all five of the GHQ scale scores was spiritual stress. Those graduate students reporting less psychological distress were also likely to report less stress regarding their spirituality. The construct of spiritual stress needs to be more clearly differentiated from psychological distress to determine whether or not students are reporting additional stress when endorsing high levels of both spiritual and psychological stress/distress. Increased PEM, increased ratio of
PEM/NEM, and decreased NEM were also correlated with lower scores on multiple GHQ scales. Again, it is likely that these constructs experience considerable similarity in definition, and further research would need to differentiate more clearly between positive and negative affectivity and psychological distress to determine whether or not separate constructs are being measured by these instruments.

It is not surprising to find that amount of stress, contact, social support, satisfaction with that support, and seeking of emotional social support are all prominent variables associated with psychological well-being. A finding particularly salient to graduate school programs was that time and attention from faculty was correlated with the psychological health of graduate students. Further research might explore the nature of relationships between faculty and students (instructional, consultive, promotional, social support, parental) and the nature of student expectations regarding faculty support.

**Stressors**

Graduate students with higher levels of success, unexpectedly, were not likely to report significantly lower levels of stress. In fact, stress associated with scholastic coursework and dissertation work were found to be significantly increased among students with higher graduate success. Perhaps, those students with higher levels of success have higher self-expectations and place greater demands upon themselves to maintain their high academic standing. It is also likely that more successful students might perceive greater expectations for their continuing success from faculty, family members, friends, and peers.

Stress regarding spirituality and stress in relationships with friends were the only stressors that were significantly lower for students with greater graduate success. Regarding spiritual stress, it is possible that the pursuit of success in graduate school
Health and Success

is viewed by more successful students in the program as an important part of their spiritual journey and growth. Although stressful in various ways, the graduate school experience may be congruent with their spiritual values and therefore less stressful spiritually. It is also possible that lower levels of spiritual stress may enhance a student’s ability to focus on successful completion of graduate school requirements, whereas high levels of spiritual stress may interfere with optimal functioning. Further research is needed to define spiritual stress more clearly and explore its relationship with spiritual well-being.

Regarding stress in relationships with friends, it is probable that graduate students with less stressful friendships would be better able to access social support when needed, and may tend to experience less interference with concentration on academic pursuits from emotional or social distress. Either of these variables could enhance academic achievements. On the other hand, perhaps those students who achieve higher success in graduate school also possess enhanced social skills that facilitate more functional friendships.

Stressors rated as most troublesome among psychology graduate students in this study did not follow the order of severity as expected from the literature review. Time and finances have been most frequently cited as the greatest stressors from multiple studies of graduate students (Bjorksten, Sutherland, Miller & Stewart, 1983; Dudley & Dudley, 1994; Heins, Fahey & Leiden, 1984). In the present study, academic concerns regarding scholastic coursework and dissertation work were reported as the most stressful for students. It is interesting that these are also the two stressors significantly elevated for students with higher levels of graduate success. Financial stress was rated by students in this study as the third most troublesome stressor, but several other academic concerns (i.e., internship expectations and application and
practicum experience) were reported as more stressful than time management/availability. It is possible that the scholastic workload in this particular psychology graduate program is more extensive or intensive than in other graduate programs. Perhaps the classroom setting of the data collection highlighted academic concerns. It might be helpful to interview students for more specific information regarding academic stress within the graduate program.

Social Support

Graduate students with higher success overall, as hypothesized, were likely to report greater levels of support from family and close friends. In addition, those students receiving special commendation from faculty, compared to those who did not, reported significantly greater levels of support from peers and significantly decreased levels of stress from relationships with friends. It is interesting to note that increased graduate success was not correlated with faculty support while increased stress regarding relationships with supervisors was positively correlated. On the other hand, as already discussed, those students with lower GHQ scores were likely to report greater support from faculty. These findings raise questions regarding the significance of graduate students' relationships with faculty. Perhaps graduate students who are perceived as more successful are able to get what they need from faculty with minimal involvement, but rely on greater levels of personal support from family and friends. It is also possible that faculty may prefer graduate students who are relatively independent, and may be more likely to perceive these students as more successful. Although students may be successful in graduate school without increased faculty support, continuing success may be dependent upon maintenance of psychological health, which is significantly correlated with greater social support from faculty. Faculty in psychology graduate programs would do well to model and encourage good self-
care, including active social involvement with family, close friend, peers, and faculty. Intentional encouragement of faculty-student relationships may be needed for many students, who may not readily initiate contact.

Coping

As was predicted, the coping styles of religion, restraint coping, and active coping were all positively and significantly correlated with greater academic success among graduate students. Increased utilization of religion coping was a particularly salient variable. Given the religious focus of this particular graduate program, however, it was expected that students attracted to this school would likely find value and help in religious types of coping strategies. It is interesting that greater utilization of both restraint (holding back one's coping attempts until they can be of use) and active (actively exerting efforts to remove or circumvent the stressor) coping styles was also positively correlated with greater levels of success among graduate students. This would, at first glance, appear to be an incompatible blend of styles. It is conjectured, however, that one's ability to accurately assess the needs of a situation and to be flexible in choosing when to use action and when to use restraint may be more predictive of successful coping outcomes than reliance on either action or restraint coping alone.

As predicted by the hypothesis, other positive coping styles, such as positive reinterpretation and growth, planning, seeking both emotional and instrumental social support, and acceptance were reported to be used a "medium amount" to "a lot" by graduate students as a whole. Humor and suppression of competing activities were reported to be used by students only a "little bit," but even these coping styles were reported as being utilized more than any of the negative coping styles. Additionally,
graduate students who achieved higher levels of success were also likely to report using less denial and less use of alcohol and drugs.

Contrary to the hypothesis, the coping style of focus on and venting of emotion was significantly correlated with success in graduate school on at least three of the six success measures. The authors of the COPE scale considered this coping style to be moderately maladaptive in situations requiring active coping, such as the graduate school experience (Carver, Scheier & Weintraub, 1989). Active coping was reported by graduate students as a whole as being one of the top three most utilized coping styles. This suggests that graduate school is, indeed, a situation requiring active coping. In contrast, students as a whole reported using the coping style of focus on and venting of emotion only a moderate amount. Nevertheless, this coping style was significantly correlated with greater success. This finding suggests that success in graduate school may require a broader range of coping styles than just those that involve active coping. Perhaps students who first recognize and express their emotions related to a stressor can then more effectively take action to remove or moderate the stressor. It is probable that students who are able to recognize and express emotion may be able to develop both greater clarity regarding their situation and greater motivation for taking action and meeting their needs.

A partial correlation examining the relationship between GPA and focus on and venting of emotion, while controlling for gender, indicated that gender accounts for the correlation between focus on and venting of emotion and GPA. Only 26 females were available for this study, thus a larger sample needs to be evaluated to confirm this finding. Further research is needed to explore the function of focus on and venting of emotion as a differentiating variable in the success of female graduate students. It is possible that this coping style is more beneficial to women than to men. It is also
possible that focus on and venting of emotion is beneficial to men, but may be less well developed in men than in women, due to cultural bias encouraging more emotional sensitivity and expression among females than among males.

Conclusion

The results of this study suggest that graduate students who wish to promote their health and academic success would do well to cultivate their physical and psychological health, utilize adaptive coping styles, reduce stress, and develop and maintain social support, particularly from family, close friends, and faculty. The importance of emotional support and expression is a particularly salient finding. It is further recommended that graduate programs examine current workloads of students, including coursework, research, and clinical training requirements, to assess for overload. Graduate programs might also evaluate their level of faculty and supervisor involvement with graduate students because the quality of faculty and supervisory contact and support are significant variables in graduate students' psychological health and well-being. Advisor or mentor programs could be developed to intentionally increase out-of-classroom involvement between faculty and students. Relationships with off-campus supervisors might benefit from clear communication of expectations and exploration of roles between graduate students, site supervisors, and the graduate program. Consistent monitoring of student and supervisor behaviors and relationships might also prove helpful. Modeling and promotion of good self-care for both faculty and students is highly recommended, with particular emphasis on development of an adequate social support system.

Future research might focus on the quality of relationships between faculty/supervisors and graduate students, as well as on expectations of both graduate students and faculty/supervisors regarding these relationships. Further exploration of
the coping style of focus on and venting of emotion in graduate school is also recommended, to assess whether it deserves its current ambivalent standing as a coping style in situations requiring active coping. It would also be important to assess the relationship between gender and this particular coping style. Gender issues regarding illnesses, surgeries, blood pressure, and seeking of emotional support might also be examined in future research, to assess their relationship to health and success variables among graduate students. Further development of the construct of spiritual stress, and its relationship to psychological distress, might also be explored.
References


Psychological Bulletin, 99(1), 36-51.

Professional Psychology: Research and Practice, 16(2), 305-315.


Appendix A

Informed Consent
MEMO
Date: 02-10-99
To: GSCP Psychology Graduate Students
From: Nancy Nelson, 4th year student
Re: Informed consent for research participants

Background Information:
The purpose of this research is to examine relationships between stress, coping, distress, well-being, blood pressure, heart rate, and “success” in graduate school in clinical psychology. If you choose to participate, your blood pressure and heart rate will be measured, and you will be asked to fill out a questionnaire packet. I also need your permission to access your graduate grades to this point and at the time of graduation, GRE scores, and a subjective faculty rating of student “success” in various domains. Signing this informed consent form will be considered assent to all of the above. Please fill out the questionnaire, sign the informed consent, and return the completed questionnaire packet to Marti Offield in the graduate psychology office as soon as possible.

This total procedure is estimated to take 30 minutes. Great care will be taken to provide as much confidentiality as possible. Each returned packet will be numbered by Marti, and the numbers matched with names, which will be kept in a locked file. I will not have access to the names of students on the packets or on the faculty ratings. Prior to being seen by myself, faculty “success ratings” will have names converted to appropriate numbers by an undergraduate student, who will be asked to maintain confidentiality regarding this information. GRE scores and graduate grades will be posted to your packet by Dr. Carol Dell’Oliver, Dr. Bob Buckler, or GFU administrative staff. To further protect confidentiality, the signed informed consent forms will also be numbered, and then will be removed before the questionnaire packet is returned to this researcher. Raw data from the questionnaire will be kept in a locked file also, and access limited to this researcher, and Drs. Dell’Oliver, Buckler, and Koch.

Results will be made available to anyone who is interested, in the form of a dissertation paper. An informal presentation time will also be scheduled to present results. If you have any questions or concerns about your participation in this research, you may contact this researcher (Nancy Nelson) via foxmail or at my home phone (503) 472-1549, or Dr. Carol Dell’Oliver via foxmail or at (503) 538-8383.

Consent:
I have read the description of this research regarding graduate students in clinical psychology, and have voluntarily chosen to participate. I understand that the questionnaire information is to be received and maintained in confidence and used for research purposes only. I also understand that if I wish to discontinue participation at any time prior to the completion of the packet, I may do so without penalty. I have also received a signed copy of this consent form.

Signature of Participant __________________________ Date __________________________
Appendix B

Questionnaire Packet
Information Survey

Age: _____ Sex: M F

Race or Ethnic Background:
1=White  2=Black  3=Hispanic  4=Asian  5=Native American  6=Other

Current Marital/Relationship Status:
1=Married  3=Widowed  5=Single (never married)
2=Divorced  4=Separated  6=Other

If not married, are you currently:
1=Involved in steady, committed relationship
2=Involved in steady, but uncommitted, relationship
3=Dating intermittently
4=Uninvolved

If not married, what are your current living arrangements?
1=Living totally alone
2=Living with children only
3=Living with family members (parents, siblings, etc.)
4=Living with a family not your own
5=Living with roommate(s)
6=Other

How many children do you have? ________

How many of your children live at home with you currently? ________

Have you been ill or gone to the doctor in the past 2 years? Yes No
If yes, please list the reason(s):
__________________________________________

Have you ever had surgery? Yes No
If yes, please list the reason(s) and the type(s) of surgery:
__________________________________________

Do you take any medications regularly? Yes No
If yes, please list: __________________________________________
Year in program: 1st 2nd 3rd 4th 5th 6th+

Expect to complete course work at end of: 1st 2nd 3rd 4th 5th 6th+

I am now actively working on dissertation: yes no

I am now actively working towards internship application/interviews: yes no

List average # of hours per week on dissertation:

List average # of hours per week on internship application/interviews:

List total # of course work hours this term:

List average # of hours of study/prep time per week:

List average # of hours of (pre)practicum-intern experience per week:

List average # of hours of paid work per week:

List average total # of hours per week in all of the above:

List average # of contacts with a mentor or teacher per week (outside of regular classroom interaction):

Please rate the following according to whether or not it is a source of stress and worry or of help and stress moderation:

(6) = great stress (5) = moderate stress (4) = slight stress (3) = slight help
(2) = moderate help (1) = great help

My financial situation: 6 5 4 3 2 1 NA

Scholastic course work: 6 5 4 3 2 1 NA

Dissertation work: 6 5 4 3 2 1 NA

Internship expectations and applications: 6 5 4 3 2 1 NA

(Pre) Practicum-Intern placement (s): 6 5 4 3 2 1 NA

My relationship with professors: 6 5 4 3 2 1 NA
<table>
<thead>
<tr>
<th></th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>My relationship with my mentor(s):</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>NA</td>
</tr>
<tr>
<td>My relationship with supervisors:</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>NA</td>
</tr>
<tr>
<td>My relationship with peers:</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>NA</td>
</tr>
<tr>
<td>My relationship with friends:</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>NA</td>
</tr>
<tr>
<td>My management/availability of time:</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>NA</td>
</tr>
<tr>
<td>Working with clients:</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>NA</td>
</tr>
<tr>
<td>My spirituality:</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>NA</td>
</tr>
<tr>
<td>Daily hassles:</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>NA</td>
</tr>
</tbody>
</table>

**General Health Questionnaire**
GHQ-28 (North American Version)

Please read this carefully:

We would like to know if you have had any medical complaints, and how your health has been in general, over the past few weeks. Please answer **ALL** the questions on the following pages by circling the answer which you think most nearly applies to you. Remember that we want to know about present and recent complaints, not those you had in the past.

It is important that you try to answer **ALL** the questions. Thank you very much for your cooperation.

HAVE YOU RECENTLY
<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 - been feeling perfectly well and in good health?</td>
<td>Better than usual</td>
</tr>
<tr>
<td></td>
<td>Same as usual</td>
</tr>
<tr>
<td></td>
<td>Worse than usual</td>
</tr>
<tr>
<td></td>
<td>Much Worse than usual</td>
</tr>
<tr>
<td>A2 - been feeling in need of some medicine to pick you up?</td>
<td>Not at all</td>
</tr>
<tr>
<td></td>
<td>No more than usual</td>
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<tr>
<td></td>
<td>Rather more than usual</td>
</tr>
<tr>
<td></td>
<td>Much more than usual</td>
</tr>
<tr>
<td>A3 - been feeling run down and out of sorts</td>
<td>Not at all</td>
</tr>
<tr>
<td></td>
<td>No more than usual</td>
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<tr>
<td></td>
<td>Rather more than usual</td>
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<tr>
<td></td>
<td>Much more than usual</td>
</tr>
<tr>
<td>A4 - feel that you are ill?</td>
<td>Not at all</td>
</tr>
<tr>
<td></td>
<td>No more than usual</td>
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<tr>
<td></td>
<td>Rather more than usual</td>
</tr>
<tr>
<td></td>
<td>Much more than usual</td>
</tr>
<tr>
<td>A5 - been getting any pains in your head?</td>
<td>Not at all</td>
</tr>
<tr>
<td></td>
<td>No more than usual</td>
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<tr>
<td></td>
<td>Rather more than usual</td>
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<tr>
<td></td>
<td>Much more than usual</td>
</tr>
<tr>
<td>A6 - been getting a feeling of tightness or pressure in your head?</td>
<td>Not at all</td>
</tr>
<tr>
<td></td>
<td>No more than usual</td>
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<tr>
<td></td>
<td>Rather more than usual</td>
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<tr>
<td></td>
<td>Much more than usual</td>
</tr>
<tr>
<td>A7 - been having hot or cold spells?</td>
<td>Not at all</td>
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<tr>
<td></td>
<td>No more than usual</td>
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<td></td>
<td>Rather more than usual</td>
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<tr>
<td></td>
<td>Much more than usual</td>
</tr>
<tr>
<td>B1 - lost much sleep over worry?</td>
<td>Not at all</td>
</tr>
<tr>
<td></td>
<td>No more than usual</td>
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<tr>
<td></td>
<td>Rather more than usual</td>
</tr>
<tr>
<td></td>
<td>Much more than usual</td>
</tr>
<tr>
<td>B2 - had difficulty in staying asleep?</td>
<td>Not at all</td>
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<tr>
<td></td>
<td>No more than usual</td>
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<td></td>
<td>Rather more than usual</td>
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<td></td>
<td>Much more than usual</td>
</tr>
<tr>
<td>B3 - felt constantly under strain?</td>
<td>Not at all</td>
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<tr>
<td></td>
<td>No more than usual</td>
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<tr>
<td></td>
<td>Rather more than usual</td>
</tr>
<tr>
<td></td>
<td>Much more than usual</td>
</tr>
<tr>
<td>B4 - been getting edgy and bad-tempered?</td>
<td>Not at all</td>
</tr>
<tr>
<td></td>
<td>No more than usual</td>
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<tr>
<td></td>
<td>Rather more than usual</td>
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<tr>
<td></td>
<td>Much more than usual</td>
</tr>
<tr>
<td>B5 - been getting scared or panicky for no good reason?</td>
<td>Not at all</td>
</tr>
<tr>
<td></td>
<td>No more than usual</td>
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<tr>
<td></td>
<td>Rather more than usual</td>
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<tr>
<td></td>
<td>Much more than usual</td>
</tr>
<tr>
<td>B6 - found everything getting on top of you?</td>
<td>Not at all</td>
</tr>
<tr>
<td></td>
<td>No more than usual</td>
</tr>
<tr>
<td></td>
<td>Rather more than usual</td>
</tr>
<tr>
<td></td>
<td>Much more than usual</td>
</tr>
<tr>
<td>B7 - been feeling nervous and uptight all the time?</td>
<td>Not at all</td>
</tr>
<tr>
<td></td>
<td>No more than usual</td>
</tr>
<tr>
<td></td>
<td>Rather more than usual</td>
</tr>
<tr>
<td></td>
<td>Much more than usual</td>
</tr>
<tr>
<td>C1 - been managing to keep yourself busy and occupied?</td>
<td>More so than usual</td>
</tr>
<tr>
<td></td>
<td>Same as usual</td>
</tr>
<tr>
<td></td>
<td>Rather less than usual</td>
</tr>
<tr>
<td></td>
<td>Much less than usual</td>
</tr>
<tr>
<td>Question</td>
<td>Options</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>C2 - been taking longer over the things you do?</td>
<td>Quicker than usual</td>
</tr>
<tr>
<td>C3 - felt on the whole you were doing things well?</td>
<td>Better than usual</td>
</tr>
<tr>
<td>C4 - been satisfied with the way you’ve carried out your task?</td>
<td>More satisfied than usual</td>
</tr>
<tr>
<td>C5 - felt that you are playing a useful part in things?</td>
<td>More so than usual</td>
</tr>
<tr>
<td>C6 - felt capable of making decisions about things?</td>
<td>More so than usual</td>
</tr>
<tr>
<td>C7 - been able to enjoy your normal day-to-day activities?</td>
<td>More so than usual</td>
</tr>
<tr>
<td>D1 - been thinking of yourself as a worthless person?</td>
<td>Not at all</td>
</tr>
<tr>
<td>D2 - felt that life is entirely hopeless?</td>
<td>Not at all</td>
</tr>
<tr>
<td>D3 - felt that life isn’t worth living?</td>
<td>Not at all</td>
</tr>
<tr>
<td>D4 - thought of the possibility that you might do away with yourself?</td>
<td>Definitely not</td>
</tr>
<tr>
<td>D5 - found at times you couldn’t do anything because your nerves were too bad?</td>
<td>Not at all</td>
</tr>
<tr>
<td>D6 - found yourself wishing you were dead and away from it all?</td>
<td>Not at all</td>
</tr>
<tr>
<td>D7 - found that the idea of taking your own life kept coming into your mind?</td>
<td>Definitely not</td>
</tr>
</tbody>
</table>
Brief NEM/PEM Scales from the MULTIDIMENSIONAL PERSONALITY QUESTIONNAIRE

These are a series of statements a person might use to describe her/his attitudes, opinion, interests, and other characteristics. Each statement is preceded by two choices, (a) = True or (b) = False. Read the statement and decide which choice best describes you. Then indicate your answer of the left, next to the statement number, by making a check mark over (a) or (b).

In other words, answer each item in this way: (a) (b) or in this way: (a) (b)

Please answer every statement, even if you are not completely sure which answer best describes you. Read each statement carefully, but don’t spend too much time deciding on the answer.

True/False

(a) (b) 1. It is easy for me to become enthusiastic about things I am doing.
(a) (b) 2. I often find myself worrying about something.
(a) (b) 3. I often feel happy and satisfied for no particular reason.
(a) (b) 4. My feelings are hurt rather easily.
(a) (b) 5. I live a very interesting life.
(a) (b) 6. Often I get irritated at little annoyances.
(a) (b) 7. Every day I do some things that are fun.
(a) (b) 8. I suffer from nervousness.
(a) (b) 9. I usually find ways to liven up my day.
(a) (b) 10. My mood often goes up and down.
(a) (b) 11. Most days I have moments of real fun or joy.
(a) (b) 12. I sometimes feel “just miserable” for no good reason.
(a) (b) 13. I often feel sort of lucky for no special reason.
(a) (b) 14. Occasionally I experience strong emotions --anxiety, anger--without really knowing what causes them.
(a) (b) 15. Every day interesting and exciting things happen to me.
(a) (b) 16. I am easily startled by things that happen unexpectedly.
(a) (b) 17. In my spare time I usually find something interesting to do.
(a) (b) 18. I sometimes get myself into a state of tension and turmoil as I think of the day’s events.
(a) (b) 19. For me life is a great adventure.
(a) (b) 20. Minor setbacks sometimes irritate me too much.
(a) (b) 21. I always seem to have something pleasant to look forward to.
(a) (b) 22. I often lose sleep over my worries.
(a) (b) 23. There are days when I’m “on edge” all of the time.
(a) (b) 24. I am too sensitive for my own good.
(a) (b) 25. I sometimes change from happy to sad, or vice versa, without good reason.

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Multi-Dimensional Support Scale

Below are some questions about the kind of help and support you have available to you in coping with your life at present. The questions refer to three different groups of people who might have been providing support to you IN THE LAST MONTH. For each item, please circle the alternatives which show your answer.

A. Firstly, think of your family and close friends, especially the 2-3 that are most important to you:

<table>
<thead>
<tr>
<th>Would you have liked it:</th>
<th>Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Usually /Always</th>
<th>More</th>
<th>Less</th>
<th>Just Right</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How often did they really listen to you when you talked about your concerns or problems?</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. How often did you feel that they were really trying to understand your problems?</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. How often did they really make you feel loved?</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. How often did they help you in practical ways, like doing things for you or lending you money?</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. How often did they answer your questions or give you advice about how to solve your problems?</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. How often could you use them as examples of how to deal with your problems?</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Now, think of your peers in graduate school:

<table>
<thead>
<tr>
<th>Would you have liked it:</th>
<th>Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Usually /Always</th>
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<tbody>
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<td>C</td>
<td>D</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
2. How often did you feel that they were really trying to understand your problems?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>Sometimes</td>
<td>Often</td>
</tr>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
</tbody>
</table>

3. How often did they help you in practical ways, like doing things for you or lending you money?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
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<tbody>
<tr>
<td>Never</td>
<td>Sometimes</td>
<td>Often</td>
</tr>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
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</tbody>
</table>

4. How often did they answer your questions or give you advice about how to solve your problems?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
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</thead>
<tbody>
<tr>
<td>Never</td>
<td>Sometimes</td>
<td>Often</td>
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<tr>
<td>A</td>
<td>B</td>
<td>C</td>
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</tbody>
</table>

5. How often could you use them as examples of how to deal with your problems?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>Sometimes</td>
<td>Often</td>
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<tr>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
</tbody>
</table>

C. Lastly, think about your professors, advisors, mentors and/or supervisors:

<table>
<thead>
<tr>
<th>1</th>
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<th>3</th>
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</thead>
<tbody>
<tr>
<td>Never</td>
<td>Sometimes</td>
<td>Often</td>
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<tr>
<td>A</td>
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<td>C</td>
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</tbody>
</table>

1. How often did they really listen to you when you talked about your concerns or problems?

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<tr>
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<td>A</td>
<td>B</td>
<td>C</td>
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</table>

2. How often did you feel that they were really trying to understand your problems?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
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<tbody>
<tr>
<td>Never</td>
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<td>Often</td>
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<td>A</td>
<td>B</td>
<td>C</td>
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</table>

3. How often did they fulfill their responsibilities towards you in helpful practical ways?

<table>
<thead>
<tr>
<th>1</th>
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<th>3</th>
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<tbody>
<tr>
<td>Never</td>
<td>Sometimes</td>
<td>Often</td>
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<td>C</td>
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</table>

4. How often did they answer your questions or give you advice about how to solve your problems?

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<th>1</th>
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<tbody>
<tr>
<td>Never</td>
<td>Sometimes</td>
<td>Often</td>
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<tr>
<td>A</td>
<td>B</td>
<td>C</td>
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</table>

5. How often could you use them as examples of how to deal with your problems?

<table>
<thead>
<tr>
<th>1</th>
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</thead>
<tbody>
<tr>
<td>Never</td>
<td>Sometimes</td>
<td>Often</td>
</tr>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
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</tbody>
</table>
COPE

We are interested in how people respond when they confront difficult or stressful events in their lives. There are lots of ways to try to deal with stress. This questionnaire asks you to indicate what you generally do and feel, when you experience stressful events. Obviously, different events bring out somewhat different responses, but think about what you usually do when you are under a lot of stress.

Then respond to each of the following items by choosing either 1, 2, 3 or 4, and writing that number at the end of each question. Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully, and make your answers as true for you as you can. Please answer every item. There are no “right” or “wrong” answers, so choose the most accurate answer for you—not what you think “most people” would say or do. Indicate what you usually do when you experience a stressful event.

1 = I usually don’t do this at all
2 = I usually do this a little bit
3 = I usually do this a medium amount
4 = I usually do this a lot

1. I try to grow as a person as a result of the experience.
2. I turn to work or other substitute activities to take my mind off things.
3. I get upset and let my emotions out.
4. I try to get advice from someone about what to do.
5. I concentrate my efforts on doing something about it.
6. I say to myself “this isn’t real.”
7. I put my trust in God.
8. I laugh about the situation.
9. I admit to myself that I can’t deal with it, and quit trying.
10. I restrain myself from doing anything too quickly.
11. I discuss my feelings with someone.
12. I use alcohol or drugs to make myself feel better.
13. I get used to the idea that it happened.
14. I talk to someone to find out more about the situation.
15. I keep myself from getting distracted by other thoughts or activities.
16. I daydream about things other than this.
17. I get upset, and am really aware of it.
18. I seek God’s help.
19. I make a plan of action.
20. I make jokes about it.
21. I accept that this has happened and that it can’t be changed.
22. I hold off doing anything about it until the situation permits.
23. I try to get emotional support from friends or relatives.
1 = I usually don't do this at all
2 = I usually do this a little bit
3 = I usually do this a medium amount
4 = I usually do this a lot

24. I just give up trying to reach my goal.
25. I take additional action to try to get rid of the problem.
26. I try to lose myself for a while by drinking alcohol or taking drugs.
27. I refuse to believe that it has happened.
28. I let my feelings out.
29. I try to see it in a different light, to make it seem more positive.
30. I talk to someone who could do something concrete about the problem.
31. I sleep more than usual.
32. I try to come up with a strategy about what to do.
33. I focus on dealing with this problem, and if necessary let other things slide a little.
34. I get sympathy and understanding from someone.
35. I drink alcohol or take drugs, in order to think about it less.
36. I kid around about it.
37. I give up the attempt to get what I want.
38. I look for something good in what is happening.
39. I think about how I might best handle the problem.
40. I pretend that it hasn't really happened.
41. I make sure not to make matters worse by acting too soon.
42. I try hard to prevent other things from interfering with my efforts at dealing with this.
43. I go to movies or watch TV, to think about it less.
44. I accept the reality of the fact that it happened.
45. I ask people who have had similar experiences what they did.
46. I feel a lot of emotional distress and I find myself expressing those feelings a lot.
47. I take direct action to get around the problem.
48. I try to find comfort in my religion.
49. I force myself to wait for the right time to do something.
50. I make fun of the situation.
51. I reduce the amount of effort I'm putting into solving the problem.
52. I talk to someone about how I feel.
53. I use alcohol or drugs to help me get through it.
54. I learn to live with it.
55. I put aside other activities in order to concentrate on this.
56. I think hard about what steps to take.
57. I act as though it hasn't even happened.
58. I do what has to be done, one step at a time.
59. I learn something from the experience.
60. I pray more than usual.
Spiritual Well-Being Scale

For each of the following statements circle the choice that best indicates the extent of your agreement or disagreement as it describes your personal experience:

SA= Strongly Agree  A= Agree  MD= Moderately Disagree
MA= Moderately Agree  D= Disagree  SD= Strongly Disagree

1. I don't find much satisfaction in private prayer with God.
   SA MA A D MD SD

2. I don't know who I am, where I came from, or where I'm going.
   SA MA A D MD SD

3. I believe that God loves me and cares about me.
   SA MA A D MD SD

4. I feel life is a positive experience.
   SA MA A D MD SD

5. I believe that God is impersonal and not interested in my daily situations.
   SA MA A D MD SD

6. I feel unsettled about my future.
   SA MA A D MD SD

7. I have a personally meaningful relationship with God.
   SA MA A D MD SD

8. I feel very fulfilled and satisfied with life.
   SA MA A D MD SD

9. I don't get much personal strength and support from my God.
   SA MA A D MD SD

10. I feel a sense of well-being about the direction my life is headed in.
    SA MA A D MD SD

11. I believe that God is concerned about my problems.
    SA MA A D MD SD

12. I don't enjoy much about life.
    SA MA A D MD SD

13. I don't have a personally satisfying relationship with God.
    SA MA A D MD SD

    SA MA A D MD SD

15. My relationship with God helps me not to feel lonely.
    SA MA A D MD SD

16. I feel life is full of conflict and unhappiness.
    SA MA A D MD SD

17. I feel most fulfilled when I'm in close communion with God.
    SA MA A D MD SD

18. Life doesn't have much meaning.
    SA MA A D MD SD

19. My relation with God contributes to my sense of well-being.
    SA MA A D MD SD

20. I believe there is some real purpose for my life.
    SA MA A D MD SD
Satisfaction With Life Scale

Below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding. The 7-point scale is as follows:

1 = strongly disagree  
2 = disagree        
3 = slightly disagree  
4 = neither agree nor disagree  
5 = slightly agree  
6 = agree        
7 = strongly agree

1. In most ways my life is close to my ideal.
2. The conditions of my life are excellent.
3. I am satisfied with my life.
4. So far I have gotten the important things I want in life.
5. If I could live my life over, I would change almost nothing.
Appendix C

Raw Data
Raw data was not included to protect the confidentiality of the subjects.
Appendix D

Vita
VITA
November, 1998

Nancy G. Nelson, M.A.

1975 Tamarack Street, McMinnville, OR 97128
(503) 472-1549
email: nnelson@viclink.com

EDUCATION

Doctoral Student
Graduate School of Clinical Psychology
George Fox University
APA accredited graduate program
Newberg, OR

M.A.
Graduate School of Clinical Psychology
George Fox University
Newberg, OR
December, 1997

B.S.
Loma Linda University
Loma Linda, CA
May, 1975

CLINICAL TRAINING AND EXPERIENCE

Preintern
9/98 to present
Woodland Park Hospital
Population: adults, adolescents, families - inpatient/day treatment supervision
Supervisors: Jonathan Lurie, Ph.D. and Robin Blair, Psy.D.
Conduct psychological evaluations, admission intake interviews, consultation with multidisciplinary team, and individual and group therapy in an adolescent and adult inpatient program. Also provide psychological assessments and therapy in an adult day-treatment program. Weekly individual and team supervision.
Total hours currently: 212  Anticipated total hours: 874

Clinical Psychology Practicum Student
9/97 to 8/98
William Temple House
Population: adults, families - outpatient supervision
Supervisors: Susan Bettis, Ph.D. and Mike Stark, Ph.D.
Provide psychological assessment, intake interviews, consultation, and individual therapy to low-income population. Weekly individual supervision and didactic training sessions.
Total hours: 446
10/97 to present
Lutheran Family Services
Population: adults, children, families - outpatient
Supervisor: Susan Means, Ph.D.
Co-lead weekly Violence Intervention Program group for mandated female offenders. Weekly team supervision provided.
**Total hours currently:** 176  **Anticipated total hours:** 312

9/96 to 6/97
Yamhill County Youth & Family Services
Population: adults, children, families - outpatient
Supervisor: Brad Johnson, Ph.D.
Conduct personality and cognitive assessment and provide family, group and individual psychotherapy. Weekly individual and team supervision provided.
**Total hours:** 461

**PROFESSIONAL EXPERIENCE**

6/75 to 9/98
Twenty-three years as a dental hygienist has provided extensive experience working with anxious patients. I am also currently supervising a clinical psychology graduate student.

**PUBLICATIONS**


**DISSERTATION**

Title: Correlates of Health and Success among Psychology Graduate Students: Stress, Distress, Coping, Well Being, and Social Support.


Chair: Carol Dell’Oliver, Ph.D.

**PROFESSIONAL AFFILIATIONS**

American Psychological Association, Student Affiliate
Division 32, Humanistic Psychology
Division 35, Psychology of Women
Division 36, Psychology of Religion
ADDITIONAL CLINICAL TRAINING

Using the 16PF in Clinical Practice: George Fox University, Newberg, OR, Oct. 1998
Presenter: Michael Karson, Ph.D., ABPP

Race and Racism in Psychotherapy: George Fox University, Newberg, OR, May 1998
Presenters: Alice F. Chang, Ph.D. and Nelson de Jesus, Ph.D.

Integration of Clinical Psychology and Christian Faith and Theology: George Fox University, Newberg, OR, April 1998
Presenter: Newton Maloney, Ph.D., ABPP

Presenter: David Freeman, Ph.D.

In Search of the Mythical Mate: An Interpretation of Relationship Work: William Temple House, Portland, OR Spring, 1998
Presenter: Donald Mihaloew, Ph.D.

Family and Play Therapy: William Temple House, Portland, OR Spring, 1998
Presenter: Doug Kutner, Ph.D.

Psychopharmacology: William Temple House, Portland, OR Fall, 1997
Presenter: Susan Bettis, Ph.D.

Using the MMPI: William Temple House, Portland, OR Fall, 1997
Presenter: Susan Bettis, PhD

Therapists in the Courtroom: Ethical, Legal and Clinical Considerations: George Fox University, Newberg, OR, October, 1997
Presenter: Eric M. Johnson, Ph.D., ABPP

CAP Conference: Bellevue, WA June 1997

Issues in Intervention with Latino Adolescents, Children and Families: George Fox University, Newberg, OR, March, 1997
Presenter: Joseph M. Cervantes, Ph.D., ABPP

Crisis, Emergency & Trauma Psychology: George Fox University, February, 1997
Presenter: Michael Connor, Ph.D.

Rational Emotive Behavior Therapy: Portland, OR, January 1997
Presenter: Albert Ellis, Ph.D.

REBT: George Fox University, Newberg, OR, October, 1996
Presenter: Hank Robb, Ph.D.

Multicultural Assessment: George Fox University, Newberg, OR, Feb. 1996
Presenter: Richard Dana, Ph.D.
# PSYCHOLOGICAL ASSESSMENTS

## ADULT

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