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Gender and personality in the stress process

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GENDER AND PERSONALITY IN THE STRESS PROCESS

BY

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DISSERTATION

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ABSTRACT

GENDER AND PERSONALITY IN THE STRESS PROCESS

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This study examines the influence of gender and several personality characteristics in the stress process using a cross-sectional study of 443 university students from a mid-size public New England university, a New England Catholic college, and a mid-size private Florida university. Three models are tested to consider the direct, mediating, and moderating effects of gender and personality on the stress outcomes of drug/alcohol use; non-substance deviant behavior; and depressive symptomatology.

Model 1 tests the antecedent effects of gender and personality to determine their influence on stress outcomes. The main effect of gender explained the largest portion of variance for drug/alcohol use and deviance with men reporting higher prevalence in both outcomes. Self esteem is found to be negatively related to drug/alcohol use and sense of coherence and authoritarianism are negatively related to deviance. Gender is significantly related to depressive symptomatology with women suffering more with this outcome.

Model 2 uses hierarchical regression to test the mediating effects of personality and stressors in the gender-outcome relationship. For the three outcomes tested, gender emerged as the strongest predictor, and the addition of personality and stress variables failed to explain away the sex differences. Personality and stress explain a portion of the sex difference for depressive symptomatology, however the sex difference remained significant. Self esteem and extraversion are significant personality factors mediating between gender and alcohol/drug use; sense of coherence and extraversion are significant personality factors mediating between gender and deviant behavior; and self esteem, neuroticism, mastery, and sense of coherence are significant personality factors mediating between gender and depressive symptomatology. Life events stress is a significant mediating factor in all three outcomes and ongoing problems is a significant factor in alcohol/drug use and depressive symptomatology.

In Model 3 a significant interaction is found between gender and life events stress on alcohol/drug use, with men being effected more at higher levels of stress. The only significant personality-stress interaction is between masculinity and life events on alcohol/drug use with those high in masculinity being affected more at higher levels of stress. Two significant interactions were observed between

personality variables and ongoing problems on depressive symptomatology. Those low in masculinity suffer more depressive symptoms as ongoing problems increase. There is a similar finding with the interaction between self esteem and ongoing problems on depressive symptomatology with those low in self esteem more greatly affected.

Because of the mostly premarital and preoccupational character of the sample, differences structured into early sex-role socialization and current structures in the world of young college students emerge as the best explanations for the gender differences found in this study.

CHAPTER I

INTRODUCTION

Social stress research has become a well-developed area within the discipline of Sociology. The primary focus of this field concerns the impact of the social environment on human health and well-being (see for instance: Aneshensel, 1992; Mirowsky and Ross, 1986; Pearlin, 1989; Wheaton, 1994). Commonly known as "the stress process," this field of study was first explored by psychologists, sociologists, and medical researchers with a proliferation of investigation in the 1960s and 70s. Early sociological research and commentary had identified the primary components of the sociological inquiry of the stress process:

> The process of social stress can be seen as combining three major conceptual domains: the sources of stress, the mediators of stress, and the manifestations of stress (Pearlin, Lieberman, Menaghan, and Mullan, 1981).

The relevance of gender and personality in the stress process has been previously established in sociological research (see for instance: Barnett and Baruch, 1987; Bolger and Schilling, 1991; Cleary and Mechanic, 1983; Gove, 1978; Mirowsky and Ross, 1986; Turner and Roszell, 1994; and Werthington, McLeod, and Kessler, 1987). Given the

influence of early gender socialization, and the structural impact of differential gendered opportunities for adolescents and young adults, it is likely that gender has important influences on personality development as well as stress reactions. In the sociological study of stress, gender stands out as the most basic level for the examination, in part, due to the pervasive stratification of gender in our culture and the consequences of social roles at this most fundamental level. It is important at this point to punctuate the obvious, that no social variable predicts or alters gender. Gender is a genesis variable.

In most stress process studies that include personality, the measures of personality are narrowly defined and often secondary to other constructs such as coping and social support. This research is grounded in the sociological domain, but will examine a social psychological construct--personality. DSM-IV (APA, 1994) defines personality traits as "...enduring patterns of perceiving, relating to, and thinking about the environment and oneself, and are exhibited in a wide range of important social and personal contexts." In this study I will be especially concerned with those personality indicators that best predict and/or moderate a person's response to stressful events.

In this study I also examine the role of gender in the context of personality characteristics in the stress

process.

Beyond the study of gender differences in the stress process is the question of mediating effects of personality and stress on stress outcomes. If gender differences in stress outcomes is confirmed, does personality, or levels of stress, transform the strength of gender as a predictor of selected outcomes? Also considered in this study is the interaction effect of gender and stress, and personality and stress, on the selected outcomes.

Primary questions under consideration in the present research ask: What is the impact of gender and personality in the stress process; and to what degree do gender and personality influence or interact with one another to produce or protect the person from negative stress outcomes?

Specific Objectives

This research is fundamentally concerned with the role of gender in the stress process. Furthermore, this research operates on an assumption that men and women possess a constellation of measurable resources and characteristics that vary across individuals and are related to the variability of stress outcomes. These factors can function as moderators that help to protect them from, or exacerbate, negative outcomes from life's stressors. As such they are

often referred to as elements of hardiness (protective) and vulnerability (exacerbative). In essence, "vulnerability" can be conceptualized as an inadequacy of resources to effectively respond to environmental stressors. Aneshensel (1992) states, "Vulnerability typically is operationalized, in essence, as group differences in the coefficient for psychological distress regressed upon a stressor" (p. 23). In a broader sense, vulnerability is often assumed to represent the residual variance in an outcome, once exposure to stress has been taken into account. An important goal of the current research is to better specify factors that may help account for this residual variance. Although considerable research has focused on the variables of coping and social support as vulnerability factors, less research has considered a wide range of personality characteristics as determinant of stress outcomes.

This study also considers the possibility that certain personality characteristics may function to increase or decrease an individual's exposure to stress. This is based on the premise that some enduring traits may influence the likelihood that individuals place themselves in difficult or potentially stressful situations.

Since past research has shown gender to represent an important source of variance in stress-related outcomes, this study focuses strongly on the link between gender and

personality in the stress process.

The principle aims of this research are to examine the relevance and position of gender and several personality characteristics within the stress process. The specific objectives are:

1. To test for differences between men and women on:

a) personality characteristics of masculinity, neuroticism, authoritarianism, self esteem, sense of coherence, mastery, meaninglessness, and extraversion;

b) discreet stressful events such as troubles in school, physical threats, difficulties in family or intimate relationships, and general social stressors; as well as ongoing problems such as pressure from others, accumulating debts, and concerns about the future;

c) mental health factors of state anxiety and depressive symptomatology;

d) deviant behaviors including drug and alcohol use, delinquent, and criminal activities;

2. To examine the extent to which personality may act as a mediator between gender and the impact of stress on negative outcomes (depressive symptomatology, state anxiety, alcohol/drug behavior, and deviance);

3. To examine the extent to which gender may affect exposure to stress, or moderate the impact of stress on negative outcomes and to determine the degree to which

gender differences in personality and/or exposure to stress help account for the hypothesized gender differences in mental health and deviant behavior outcomes.

BACKGROUND AND SIGNIFICANCE

There is an abundance of theoretical and research literature addressing varied aspects of gender in the social world, and researchers of the stress process have drawn heavily on related gender studies to guide their work. This study especially depends on studies of gender differences in the stress process, but also looks toward research from the domain of social psychology and personality.

Much of the commentary and exploration in the area of the stress process and personality has considered the role personality plays in coping. While issues of "coping" are not being addressed here, the literature in this area provides some guidance for the selection of personality characteristics in the present study. A smaller proportion of the literature has considered how social support may interact with personality.

Stress and Gender

Much of the research concerning the role of gender in the stress process has focused on explanations of gender differences in psychological distress and depression. There

is considerable evidence showing that women suffer higher rates of distress and depression than men (see for instance: Al-Issa, 1982; Cleary and Mechanic, 1983; Kessler and McLeod, 1984; Longmore and Demaris, 1997; Turner, Wheaton, and Lloyd, 1994). In fact, there appear to be few factors that produce as strong an impact with as much certainty. Among the earlier studies, Gove (1972, 1978; Gove and Tudor, 1973) found sex differences in mental illness, both in neurosis and psychosis. The finding that women are more distressed than men was reviewed again by Mirowsky and Ross (1986) and found to be among the most robust findings in stress research.

Some research suggests that greater distress and depression among women may be, in part, a function of gender differences in exposure to stress. For example, Cleary and Mechanic (1983) found gender differences in distress to be even greater among married people and attribute this to the greater number of stress producing roles marriage entails, especially when young children are in the household. However, Barnett and Baruch (1987) show skepticism for attributing gender differences in distress based solely on occupancy in marital and occupational roles. They lean toward focusing on the quality of those roles and expect important differences will be found in how men and women are affected by the interaction between work and family roles.

Kessler and McLeod (1984) analyzed the combined data from five studies and found that women experience more "network" events than men, meaning women suffer added distress because of their greater involvement in social networks. The rewards and costs of network maintenance, sometimes referred to as "the high cost of caring," has also been examined (Werthington, McLeod, and Kessler, 1987). In their research, women were more often identified as helpers by both men and women and were more likely to report the stressful events of other people close to them. These findings have led researchers to conclude that women are disadvantaged because they personally experience a broader range of undesirable events as they deal with both their own and others' stressors.

Recent research by Turner, Wheaton, and Lloyd (1994) supports the interpretation of this earlier research that mental health differences between men and women are due, at least in part, to differences in exposure to stress. For example, they found that women report experiencing significantly higher levels of recent and ongoing stress than do men. Turner et. al. combined scores from chronic stress data and "operant events" (events reported as occurring within the month preceding the interview, and ongoing events regardless of when they began) to create an index of "operant burden" that provides a comprehensive

assessment of role-related stresses. They note that gender differences are especially apparent in the area of operant burden emphasizing the importance of current stresses.

Some interpretations of women's greater prevalence of psychological distress have focused on whether women may be more constitutionally vulnerable to the effects of social stress, relative to men. Although the "vulnerability" hypothesis has received less empirical support than the exposure hypothesis in explaining gender differences in distress, a few studies point to its relevance. For example, Kessler and McLeod (1984) found that while "...women do not suffer from a pervasive emotional vulnerability to stressful experiences when compared to men" (p. 626), they do appear more vulnerable to stressors occurring to a wider range of network members while men and women were equally distressed by crises that occurred to their spouse or children. Women were more distressed by the crises of their friends and other network members when men were not. Also, Cronkite and Moos (1984) found that women were more likely to experience depressive symptoms in response to their spouses alcohol problems and Turner (1994) found women to be more negatively affected by marital strain relative to men.

The previous research on vulnerability has typically been weak in its explanation for the basis of the difference

between men and women. Pearlin (1989) has cautioned, "Perhaps men and women do not differ in their overall vulnerability to stressors, but differ instead with regard to the particular outcomes to which they are vulnerable" (p.253). Whether the suggested differences in outcomes are due to constitutionally based vulnerability or to socialized reactions has yet to be determined. To the extent that women do experience greater vulnerability, it may be due to gender differences in personality characteristics. One of the primary goals of this research is to consider the possibility that gender differences in personality account for differences in exposure and/or vulnerability to stress.

Gender and Personality

Most of the gender differences reported in the stress process literature address stress outcomes. Far less research has investigated gender differences found in stress antecedents like personality. Early social psychological thought in the area of gender has informed the personality dimensions of concern for researchers of the stress process and more recent inquiry has refined our understanding of these issues. The classic analysis of sex differences by Maccoby & Jacklin (1974) reported several perceived differences to be myth. Among their findings: girls are no more social than boys; there is no difference based on self-

esteem; and girls have no less achievement motivation than boys. They did find males to be more assertive, more aggressive, and less anxious than females, and these findings were reaffirmed by Feingold (1994) in a reanalysis of the original Maccoby and Jacklin studies. Questions of difference still left open at the time of their analysis due to lack of evidence or ambiguous findings included traits of competitiveness, dominance, compliance, and nurturance.

Feingold (1994) also reevaluated a meta-analysis by Hall (1984) and cofirmed Hall's finding of no sex difference on assertiveness in studies found in four journals from 1975 to 1983.

Several years after the work of Maccoby and Jacklin, Gecas (1989) was confident in saying, "Research in child development as well as sociology indicates that males have a greater sense of self-efficacy, personal control, and mastery than do females in our society" (p. 305). In reference to their evaluation of personal control, Mirowsky and Ross (1986) also determined that women have a greater sense of powerlessness.

Mastery, as a personality characteristic, became a popular measure of personal control. The construct of mastery has been described as, "the extent to which people see themselves as being in control of the forces that importantly affect their lives" (Pearlin, Lieberman,

Menaghan, and Mullan, 1981, p. 340). Sometimes tied to the larger concept of 'personal agency' (Turner and Roszell, 1994), or 'self efficacy' (Avison and Gotlib, 1994), mastery is closely associated with powerlessness and locus of control. Citing Hall (1984), Feingold (1994) reports that females were less internally controlled than males, however the effect size was small.

Most of the empirical studies find that men experience greater mastery than women (Gecas, 1989). More recently, Stets (1995) found an even stronger relationship between "gender identity" and mastery as measured by the Personal Attributes Questionnaire (PAQ) (Spence & Helmreich, 1978). Stets states, "Those with more feminine gender identity are more likely to perceive they have low mastery" (p. 143). A recent American Sociological Association study showed that adolescent female's lower mastery predicts depression while adolescent male's lower mastery predicts substance abuse (Hoffman, Su, and Gray, 1995). However the opposites do not hold, that is, lower male mastery does not predict greater depressive symptomatology nor does lower female mastery predict greater substance abuse. The appears to be some gender effect in the meaning of mastery where we may be faced with two types: "male mastery" and "female mastery."

Some recent studies have not completely supported the hypothesis of a direct relationship between gender and locus

of control, a concept very similar to that of mastery. One study found only a small difference in a study of seventh graders (David and Kaplan, 1995). In that study, gender had a direct effect on locus of control which in turn had a direct effect on health care utilization. Another study, using gender orientation rather than the dichotomous distinction, found a weak, nonsignificant correlation between masculinity/femininity and locus of control in a multiracial sample of high school students (Markstrom-Adams and Adams, 1995).

In their classic studies on authoritarianism Adorno *et al* (1950) found some small differences within subgroups of men and women on that trait (with men scoring higher). Despite this, they were compelled to report, "...no sex differences of practical significance seem to exist; and that differences *among* male groups and *among* female groups are much greater than the differences *between* males and females" (p. 175). Some recent research, however, has found differences. A study in the early 1980's investigating the "gender gap" in political opinions found a small gender difference in political authoritarianism in the working class that disappeared in the middle class (Goertzel, 1983). A study using social dominance orientation (SDO) as a measure of authoritarianism found a small but significant difference with men reporting higher scores (Sidanius,

1994). A sex typing scale was used by Rubinstein (1995) and found that men scored significantly higher than women with sex-typed men and sex-typed women scoring the highest, androgynous men and women scoring the next highest, then undifferentiated following and cross sex-typed men and women scoring the lowest on right-wing authoritarianism.

Since Maccoby and Jacklin's presentation, there have been many findings of lower self esteem for women. Several recent studies of teens have shown the difference remains robust (Eiser, Havermans, and Eiser, 1995; Feldman, Fisher, Ransom & Dimiceli, 1995; and Morgan 1995). However a study involving a national random sample of 2,248 men and women over 18 by Gove, Ortega, and Style (1989) found only a small difference in self esteem among young adults with women scoring slightly lower. Moreover, this gender difference disappeared with age. Gove et al. (1989) also found no difference between men and women on an index of meaninglessness when controlling for race, education and income.

A gender difference in sense of coherence (SOC) scores was discovered in an Israeli sample of mildly hypertensive adults (Ofra, Paran, and Neumann, 1993) with women reporting lower SOC scores than men. However a study of medical students found no gender difference in SOC in the early and late stages of medical school (Bernstein and Carmel, 1991).

The study also showed that student's SOC was lower at the end of medical school compared to their first year scores.

There appears to be some association between sex role orientation and neuroticism, with femininity being associated with poorer adjustment (Krampen, Effertz, Jostock and Muller, 1990; and LaTorre, 1978). One study of cigarette dependence found a greater proportion of women smokers were neurotic (Shiffman, 1979). Neuroticism is often referred to as "negative affectivity" whereas extraversion is a form of "positive affectivity." Positive affectivity, as measured by extraversion scales, has been associated with hostility (Ganster, Schaubroeck, Sime, and Mayers, 1991) although others have been unable to find the connection (Costa, Zonderman, McCrae, and Williams, 1986). A major difference between men and women on extraversion (with men scoring higher) was found by Musante, MacDougall, Dembroski, and Van Horn (1983) in a study of undergraduates. Positive and negative affectivity appear to be only weakly correlated with each other (Watson and Tellegen, 1985).

In summary, findings are mixed with evidence suggesting gender differences in some of the personality dimensions. Previous research indicates that men will usually score higher on indices of self esteem, mastery, sense of coherence, and extraversion, while women often have higher scores on neuroticism. The associations between gender and

the other two characteristics to be addressed in this research-- authoritarianism and meaninglessness-- are inconclusive. Despite some evidence of personality differences for men and women, the larger picture suggests most differences are small or situationally based.

Stress and Personality

Within the research literature concerning the sociological study of stress, personality characteristics are rarely studied on their own merit, but have more commonly been affiliated with strategies and resources of coping in regards to the effects of environmental stressors. Garrity, Omes and Marx (1977) found that, "The introduction of personality factors into the life change/health change model adds significantly, though modestly, to the predictability of health change" (p. 28). Their study used health status as the dependent variable, and they found the role of personality to be both a direct, as well as a moderating, variable on health outcomes. For example, they found the personality characteristic of conformity reduced the negative impact of life changes, and emotional sensitivity increased risk. Their finding for conformity is not surprising in that it is logically related to social support, which is found to reduce risk for illness (Pearlin,

Lieberman, Menaghan, and Mullen, 1981).

Many studies link personality to coping strategies and the influence of coping as an important variable in the stress process is well established (e.g. Pearlin and Schooler, 1978; Pearlin, Lieberman, Menaghan, and Mullen, 1981; Moos and Billings, 1982). Lazarus (1967) linked personality, sources of stress, and coping in the causal chain this way:

> We are implying in this way that if we knew the factors in the stimulus configuration *and* those within the psychological structure that jointly influence this appraisal, we could then predict the coping process and the observed reaction (p. 162) [italics added].

Lazarus assures us that not all personality characteristics influence coping processes by affecting appraisal, but that many do. There certainly exists a variety of strategies from which individuals select to cope with events and strains in their environment, and individuals have different mechanisms for selecting and weighing information, both about the situation and about their ability to respond. "Qualities of the psychological or personality structure will determine how this information is to be utilized or modified" (Lazarus, 1967:164).

There are a number of terms and constructs dealing with control, mastery, personal agency, or self-efficacy that are closely related, connected, and overlapping. Among the most researched is Rotter's (1966) concept of "internal" and

"external" locus of control (see for instance: Mirowsky & Ross, 1990; Ouellette, 1993). Gecas (1989) reviewed the many conceptualizations of self-efficacy and locus of control and found that each is interested in both the individual's response to the environment and also the environment's responsiveness to the person.

Thoits (1983) reported that the controllability of events is a strong predictor of psychological disturbance including depression, distress symptoms, suicide attempts, and the onset of schizophrenia. Suls and Fletcher (1985) found that those who were low in self-attention or self-consciousness show higher subsequent illness to stressful life events because, according to their adaption of control theory, people low in self-attention are slower to correct for feedback 'error' when their body first signals signs of distress due to changes resulting from stressful events. Although it has been generally shown that it is better to be high in self-efficacy, internal locus of control, or high in self-attention, Gecas (1989) warns that too much can be a problem. For instance, those high in internal locus of control may blame themselves for events, such as diseases, beyond their control. These extremes notwithstanding, the belief that one can control the stressful events in one's life is associated with emotional well-being (Thompson & Spacapan, 1991). Lazarus and Folkman (1984) indicated that

beliefs about control are connected to mastery and confidence.

Two studies by McCrae and Costa (1986) attempted to resolve a number of problems identified in earlier research involving personality and coping. Costa and McCrae (1980) had previously found three broad domains -neuroticism, extraversion, and openness to experience- provide enough basis for most personality traits and for systematic analysis of personality in the stress process. This model was designed to clarify the premise that personality involves enduring traits, whereas coping involves more discreet behaviors. They found neuroticism and extraversion to be the "...most pervasive and replicable factors in coping..." (p. 394).

Although McCrae and Costa admit there is still room to challenge the causal sequence, they cite the fact that one of their studies tested personality prior to the specified stressors, and their results are consistent with other studies supporting the claim that personality remains rather stable in spite of induced stressors. "All these considerations support the premise that personality is causally prior to the stressors, coping efforts, and well-being states assessed in this research" (p. 400).

Parkes (1986) also used extraversion and neuroticism as measures of personality. She found that low neuroticism was

related to more adaptive coping in work demand situations than high neuroticism, and she maintains the research design assures the causal direction from personality to individual differences on coping. Extensive analysis confirmed that increased predictive power from environmental and situational variables, although significant, were additive and not interactive.

The idea of a cluster of personality indicators that would assess levels of vulnerability was revisited by Ormel, Stewart, and Sanderman (1989). Neuroticism, self esteem, and locus of control were tested for their modifying effect between prior symptom levels of latent distress and life situation change (the extent to which the subject's situation had improved or deteriorated between Time 1 and Time 2-one year apart). The results showed that only medium and high vulnerability subjects were affected by life change situation, and, "...neuroticism and self esteem increase the individual's liability to psychological distress independent of level of exposure to stress" (p. 193). Their conclusions further support the belief that personality factors are important in assessing the variability found in outcomes of well-being. This study also strengthens a belief that the greater the vulnerability, the greater the risk to negative stress outcomes.

Bolger (1990) also used neuroticism as the indicator of

personality in a study of pre-med students facing the Medical College Admissions Test. The dependent variable was anxiety. Bolger showed that those high in neuroticism are far more likely to use wishful thinking and self blame as coping strategies before the exam, findings supported by previous research. But more importantly, they found these strategies to have a main, direct effect on anxiety- "...neuroticism leads people to cope ineffectively, and this coping, in turn, leads to increases in distress" (p. 534).

Bolger, in a second study with Schilling (1991), considers three possibilities: first, that higher neuroticism leads a person into situations with a greater frequency of stressful life events (exposure); that higher neuroticism is associated with a greater reactivity to the random nature of life events (vulnerability); or, thirdly, that the relationship between neuroticism and distress is a direct one unmediated by stressful events. Personality theory most strongly predicts the vulnerability hypothesis that higher levels of neuroticism will be associated with greater anxiety under increased stress (Endler & Edwards, 1982; H. J. Eysenck and M. W. Eysenck, 1985). The important finding from the Bolger and Shilling study was that, "reactivity to stressors is twice as important as exposure to stressors in explaining the relationship between neuroticism and distress in daily life" (p. 372). They

found that interpersonal conflicts appear to be a key link between neuroticism and distress in daily life.

Another area related to personality styles and coping involves flexibility and trust. These two dimensions have been previously consolidated under the personality concept of authoritarianism (Adorno *et al*, 1950). Mirowsky and Ross (1986) identified mistrust and inflexibility (major components of authoritarianism) as important factors in the stress process. Their discussion develops the argument that inflexibility reduces the range of strategies a person may use and leads them to apply a limited number of strategies to all situations, and, "...inflexibility in turn reduces the ability to cope, and the consequent failures increase the sense of not being in control" (p. 41). Mistrust exacerbates the problem by causing a person to distance themselves from potential sources of social support.

Finally, Mirowsky and Ross (1986) identified alienation as one of the other major themes surrounding the individual's understanding of self. They define alienation as any form of social separation or detachment and is logically affiliated with concepts of social support.

There is a logical assumption that certain personality types are more likely to marshall social support, on a continuing basis as well as during times of crisis, and other personality types are going to be less able, skilled,

or needy in attracting and utilizing social support. In a study of defense mechanisms, Perry and Cooper (1989) referred to one type as "help-rejecting complainers" (p. 450). We can imagine that such a group of people would be high in distress, but low in social support.

Lowenthal (1968) showed there were individual differences that should be considered in understanding the amount and intensity of intimate contact needed, and the effects of its absence, in an aging population. While he didn't address the nature of these differences, personality characteristics likely represent important sources of vulnerability. For example, extroverts have been shown to have a substantially heightened sensitivity compared to non-extroverts in a population of first year psychology students (Duckitt, 1984). The finding suggests that previously observed buffering effect of social support might be more operative for extroverts than for introverts.

Lefcourt, Martin, and Saleh (1984) found the moderating effect of social support was more beneficial for those with internal, rather than external, locus of control. They state, "Apparently the moderator effects of social support were more salient among those who were less generally gregarious (i.e., high-need autonomy and low-need affiliation) and more self-attributing for outcomes in the affiliative realm (i.e., internal locus of control for

affiliation)" (p. 383). Their conclusion also considered the possibility that people with greater internal locus of control are more able to use the information and comfort provided by close social support.

Fleishman (1984) found "...a lack of association between advice-seeking and other instrumental actions" (p. 241). This does not mean those who avoid soliciting advice are not relying on social support in other ways (e.g. "just knowing they're there," or using social support to maintain self-esteem), but it does imply that other personality variables might compensate for the lack of social support.

Personality Indicators Used in Stress Research

The search for reliable and valid indicators of personality operating in the stress process has met varying degrees of success. Chan (1977) suggested the development of a "personal vulnerability" index that would give researchers a tool to explain and predict differences in individual reactions to stress. Researchers have commonly chosen a constellation of enduring patterns to serve as global indicators of personality. Chan (1977) recommended such an index, but offered little as to its content beyond suggesting that self-esteem, internality vs. externality, and helplessness might logically be included.

A leap in the direction of Chan's suggestion was taken

by Kobasa, Maddi, and Courington (1981) with the development and testing of a "hardiness" index. Hardiness was constructed from three components: commitment; control; and challenge. "The significant main effect [between life events and illness] due to personality-based hardiness in the analysis of variance and covariance supports the view that...[hardiness]...functions as a resistance source" (p. 377). In addition, their study showed that personality (as measured by hardiness) was not a mere reflection of constitution. The prospective nature of the study was an important contribution to the understanding of personality in the stress process, but their conclusions suggested an additive effect involving hardiness, constitution, and life events. It is important to note that commitment (one dimension of the hardiness index) is considered among the most important elements of vulnerability to Lazarus and Folkman (1984). They assert, "...psychological vulnerability is determined not just by a deficit in resources, but by *the relationship between the individual's pattern of commitments and his or her resources for warding off threats to those relationships*" (p. 51). Kobasa *et al* (1981) used their "hardiness" index which included commitment (as opposed to alienation), control (as contrasted with powerlessness), and challenge (as opposed to threat) to serve as the representation of personality.

Duckitt (Duckitt & Broll, 1983; Duckitt, 1984) has constructed six personality factors he has found useful in his research: anxiety; extraversion; critical independence; sensitivity; shrewdness; and inhibition. None of the factors showed direct effects on illness behavior, and only sensitivity proved to be a moderator between life stress and illness behavior (Duckitt & Broll, 1983). Extraversion was the only factor shown to be significant in research of social support (Duckitt, 1984). Duckitt lamented that he had not used a representation for emotional dependence in his study of social support.

Costa and McCrae (1980) decided that neuroticism, extraversion, and openness to challenge were three broad domains that captured the largest parts of personality. They admitted that among the missing components were conscientiousness and agreeableness. In a cluster that was used to test vulnerability to minor psychiatric symptoms, Ormel, Stewart, and Sanderman (1989) used neuroticism, self-esteem, and locus of control, all of which have been shown important in previous studies. Neuroticism surfaced as the most significant. Bolger (1990) has also shown neuroticism to be an important component of personality for stress research.

A number of personality characteristics have been chosen for analysis in previous research and several have

proven their predictive strength for undesirable stress consequences. Those showing the greatest promise are: neuroticism and extraversion; self esteem; authoritarianism; mastery; alienation; and meaninglessness as an opposite measure of commitment.

Stress Outcomes

For convenience sake, there is a temptation to choose a single outcome for which to measure differences in gender, personality and stress. This leaves us at high risk for committing Type II errors, or failing to find in our research differences that exist in reality. In discussing this issue Pearlin (1989) states,

> The observation of multiple outcomes is highly desirable because people having different social and economic characteristics also may have different modes of manifesting stress. As a result, we run the risk of seriously misjudging the effects only on the basis of a single outcome (p. 253).

For these reasons we have chosen several indices of stress outcomes to measure. Dohrenwend and Dohrenwend (1978) identified a wide range of outcomes that had been correlated with stressful life events including heart disease, fractures, and psychological disorders and concluded, in agreement with Hinkle (1974), that no aspect of human growth would be immune to the effects of the social and

interpersonal environment.

Depressive symptomatology was identified early in the study of the stress process as a viable measure of the effect of stress (Pearlin et al, 1981). They comment, "...that depression may be especially sensitive to a distinctive kind of experience, namely, undesirable experience that is both enduring and resistant to efforts aimed at change" (p. 342). Turner, Wheaton, and Lloyd (1995) have recently substantiated the strength of depressive symptomatology as a dependent variable finding results consistent with most earlier studies. The stress-depression link was tested and the researchers concluded, "...that social stress may be substantially more important as a determinant of mental health than currently supposed and that the role of stress in explaining variations in mental health by sex, age, marital status and socio-economic status remains to be established" (p. 119).

Depression very likely has been the most widely used dependent variable in stress research and continues to be in heavy use today.

State anxiety has also been used as a dependent measure of stress, although less frequently. State anxiety has been shown to be positively correlated with negative events in young adolescents, but not with positive events (Swearingen and Cohen, 1985). Brown (1995) had similar findings from a

longitudinal study of adult women in London. Another recent study found a relationship between unemployment and anxiety, specifically for women with low self esteem (Jex, Cvetanovski, and Allen, 1994). In his meta-analysis of gender differences Feingold (1994) found females scored higher on scales of anxiety.

Alcohol and drug use have also been studied as an effect of increased stress. Rhodes and Jason (1990) proposed a social stress model of substance abuse but found little support for a direct link between the two. In a review of the literature examining studies of women, stress, and drugs, Lindenberg, Reiskin, and Gendrop (1994) determined,

> ...the nature, direction, interaction, and magnitude of the contribution of stress to substance abuse remains equivocal. As stress is dynamic over time, it may contribute more in some developmental phases of life than in others, and thus may be age-, as well as, time-sensitive (p. 258).

It appears that the general problem with the social stress model of substance abuse lies in the confounding sources of stress, primarily family interactions and coping strategies. One recent study of sixth graders in the midwest found an interaction between family stressors and negative life events with early experimentation of alcohol, drugs and tobacco (Havey and Dodd, 1995). Similar findings were reported from a multiethnic urban sample in New York 11 to

13 year olds (Wills, Vaccaro & McNamara, 1992) and from adolescents in San Diego (Brown, 1989).

The buffering role of moderate alcohol use was investigated by Neff and Husaini (1982). They found, "...life events being more strongly related to depressive symptomatology for abstainers & heavy drinkers than for moderate drinkers" (p. 315).

There is a large and historical body of literature examining delinquency and criminal behavior in adolescents and young adults with an increasing focus on conduct disorder in children. However, there is little research that examines the link between social stress and delinquent behavior. Vaux and Ruggiero (1983) proposed a stress-deviance model after finding that life change added significantly to age and socioeconomic status in predicting violence, theft, drug use, property damage, and indicators of delinquency among in-school youths 14 to 19 years old.

These four outcomes, depressive symptomatology, state anxiety, alcohol/drug use, and delinquent behaviors appear from the literature to have shown considerable consistency in their relationships to the effects of social stress.

Summary

The important role of gender has been demonstrated in earlier research. It has been simultaneously shown that the

role of gender is still ambiguous in some areas and earlier researchers have pointed to the need for further investigation in the effects of gender in the stress process. Evidence of gender differences in personality is strongest in respect to indices of self esteem, mastery, sense of coherence, extraversion, and neuroticism. The characteristics of authoritarianism and meaninglessness show less certainty for gender differences. There are further indications that masculinity/femininity may also be a predictor of stress outcomes.

Prior research has demonstrated that each of these personality dimensions are, in one way or another, related to adequacy of personal resources that we call personality in the individual's ability to protect against the ill effects of stressful events. The weight of prior research suggests that women possess different personality resources that may make them more vulnerable to life stress. However, other research suggests that women possess no substantial personality differences that would leave them at greater risk to stress outcomes for dispositional reasons.

Personality has been increasingly recognized as an important factor in the stress process. In addition, the techniques researchers have developed for measuring and integrating personality reflect growing sophistication in the area of stress research. As a part of that evolution,

we have also come closer to choosing indicators with relatively high potential for predicting certain stress outcomes.

Gender differences in personality are of special concern to this study and previous research has directed the search for the most appropriate measures to investigate in a study of personality in the stress process. Feingold (1994) has suggested however that this may be a diminishing concern when he reports, "By comparison, the recent findings of cognitive gender differences are much smaller than those found in the past, at least for adolescents" (p. 450), suggesting cultural changes in the socialization of children in the realm of gender differences in personality.

The understanding of personality vulnerability requires more than just considering the additive effects of as many indicators as can be tested. Consideration must be made for the nuances of different characteristics. Similar to Thoits' (1983) concern for the additive, curvilinear, and interactive effects of events, we must also consider the same problems when considering the combined strength of different dimensions of personality. People low in self esteem are predicted to suffer more from life event changes. But are there personality qualities that may compensate and subsequently offset the negative effects of low self esteem? As stated earlier by Gecas (1989), some characteristics are

not completely linear, such as internality, which can have negative effects at the extreme.

The appropriate location of personality in the stress process is still ambiguous and may depend in part on the question being asked. McCrea and Costa (1986) placed personality causally prior to stressors, coping efforts, and well-being states. Lazarus (1967) suggests instead that we should be considering personality as a moderator in the stress process, after stressful events. Also, another consideration is that personality acts directly on stress outcomes independent of stressful events.

CHAPTER II

RESEARCH METHODS

This study employed an anonymous, self-administered survey comprised of several existing or adapted indexes and indicators (described below).

This research has three components. The first considers the direct effects of gender, personality, and stress on the outcomes of drug/alcohol use, non-substance deviance, depressive symptomatology, and state anxiety. Secondly, I consider the mediating effects of personality and stress between gender and the selected outcomes. Finally, I test for interaction effects in the stress process.

Rationale

A number of stress researchers have led the way in establishing protocols for social stress research. Many have considered gender in their models. Many also have struggled with the construct of personality, and some have offered suggestions and challenges for this research. Among Lazarus' (1967) recommendations for future study is that we not fear or shy away from the phenomenological nature of the

construct of personality, as it was his belief that personality is an important factor in the variance observed in both coping choices and stress outcomes. There has been much research since to justify his belief. Gender represents a potentially important factor in the understanding of these nuances.

In speaking to the large body of evidence that social support precedes psychological and health distress outcomes, Turner (1983) speaks to the importance of personality characteristics in that they may actually mitigate the size, and presumably, the availability, of social networks. "Thus premorbid social characteristics may account largely or wholly for the observed association between network characteristics and mental-health status" (p. 126).

Most researchers test for the role of personality in the stress process by choosing a single scale or instrument that meets their research criteria. More sophisticated designs have combined two or three different instruments to extend the dimensions of personality measured. Among the most common personality or person level variables studied in stress research are self esteem, commitment, and authoritarianism. Outcomes such as depressive symptomatology, or "psychological distress," and anxiety have shown an association with these personal characteristics. Psychological distress and state anxiety

Figure 2-1. Model Illustrating the Directs Effects of Stressful Events, Personality and Gender on Stress Consequences.

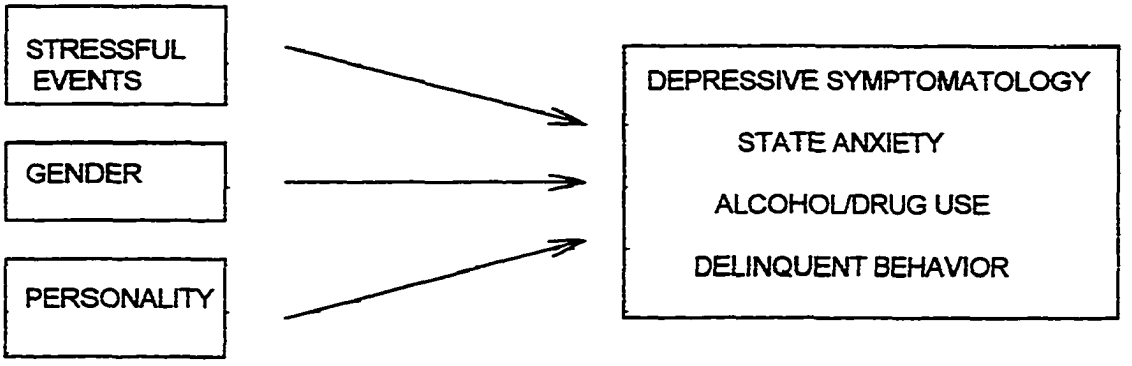


Figure 2-2. Model Illustrating the Antecedent Effects of Gender, Personality and Stressors on Stress Consequences.

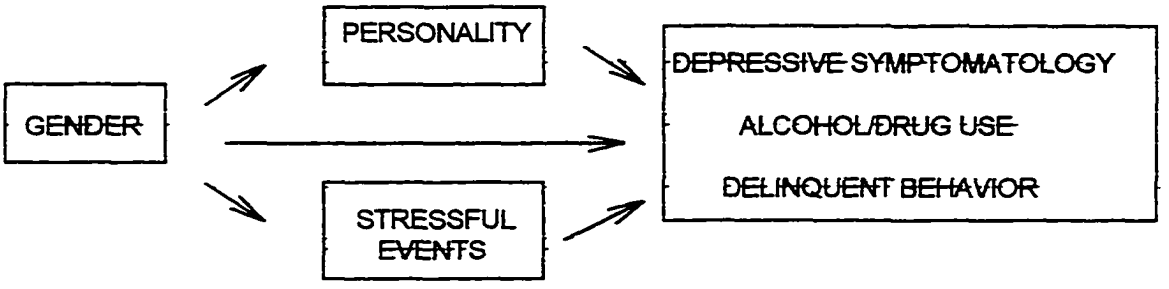
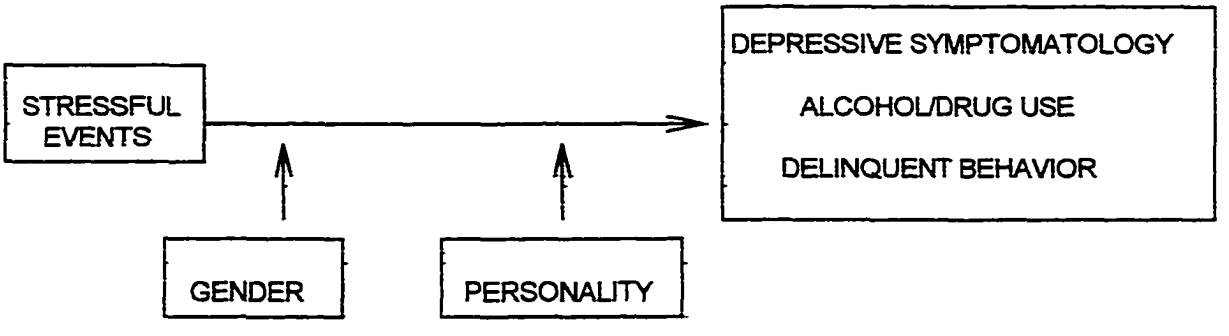


Figure 2-3. Model Illustrating the Moderating Effects of Stressors and Gender/Personality on Stress Consequences.



are used as the dependent variables in this research because of their demonstrated variability and relatively high rate of prevalence in the study population. In addition, alcohol and drug use as well as delinquent behaviors are tested as outcomes of gender and personality in stress processes.

This research has considered gender and the selected personality indicators separately and collectively at these different points in the stress process: as a direct cause of stress outcomes independent of stressful events; as a mediator of stress outcomes; or as a moderator of stress outcomes.

The Role of Gender and Personality in the Stress Process

Where does personality operate in the stress process? Among the earliest discussions of this problem can be found in Durkheim (1897 [1951]) when he considered the issue of insanity and suicide. If suicide is a form of insanity, then the discussion is over: all cases of the dependent variable, suicide, are simply a behavioral expression of the independent variable, insanity. But Durkheim logically dismisses this circular reasoning by recognizing that situations are not stable and the individual's ability to respond can be inadequate. Durkheim struggled with the placement of psychological states in the same way we still are today:

> This psychological type is therefore very probably the most commonly to be found among suicides. What share has this highly individual condition in the production of voluntary deaths? Can it be alone, if aided by circumstances, produce them, or does it merely make individuals more accessible to forces exterior to them and which alone are the determining causes of the phenomenon? (p. 69).

This study similarly considers the placement of personality in the stress process. The three models proposed in this study are conceptual models only and, because of the crossectional nature of this research, can not assure a causal relationship between the independent and dependent variables. The first possibility is that gender, personality, and life events all have independent direct effects on stress outcomes (Figure 2-1). This model would imply that no interaction effects are present, but that each class of variables (stressful events, gender, and personality) has direct but independent effects on the outcomes.

Next I have considered the mediating effects of personality in the gender-stress outcome relationship (Figure 2-2). The efficacy of this model is based on the logic that gender and personality characteristics are stable and precede the life events in the causal chain. This model is tested with a hierarchical regression method beginning first by repeating the direct effects of gender on the stress outcomes on the logic that no other social variable

precedes this factor. Theoretically these same operations could also be indicative of a spurious relationship between gender and the stress outcome. However, this concern is diminished by the certainty that no other social variable can precede and cause gender. A third variable (i.e., personality) is then added to a bivariate relationship. This variable can be considered a mediator if, when added to the model, it causes the previously significant direct relationship (i.e., gender-stress outcome) to disappear. Step 2 integrates the mediating effect of personality variables into the model and step 3 includes the impact of the stress variables.

Finally, I will consider the possibility that personality acts as a moderator or buffer in the stress process (Figure 2-3). This is accomplished by testing for interaction effects first between gender and stress on each of the outcomes, then between each of the personality variables and stress on each of the outcomes.

Subjects

Following approval of the UNH Institutional Research Board[1], I distributed the survey in general education classes to students at the University of New Hampshire, to a

[1]This project was deemed "Exempt" by the University of New Hampshire Institutional Research Board.

Table 2-1. Characteristics of the Sample.

Characteristic/Measure		Men (n=159)	Women (n=282)	Both (n=441)
Age	Years	20.86	20.91	20.89
Sex	% Female			64%
Work During School	% Yes	52%	62%	58%
College GPA	Mean	2.71	2.98	2.88
Religious Affiliation	% Affiliated:			
	Catholic	54%[1]	52%	53%
	Other Christian	22%	22%	22%
	Jewish	4%	6%	5%
	No Preference	21%	20%	20%
Ethnicity	%			
	White	88%[1]	84%	85%
	Black	7%	4%	5%
	Native American	<1%	--	<1%
	Hispanic	4%	9%	7%
	Asian/Pacific Is.	<1%	2%	1%
	Other	--	1%	<1%
Family	Marital Status (of Parents)			
	Married	70%[1]	66%	67%
	Never Married	1%	2%	2%
	Separated	5%	2%	3%
	Divorced	21%	27%	25%
	Deceased	3%	2%	3%
Family Size	Mean #			
	of Siblings	2.1	2.2	2.2
	total in house	3.9	4.0	3.9
Income	$ per Year (in thousands)			
	Father	54.2	59.8	58.7
	Mother	33.2	26.9	28.1
	Family	82.6	85.0	84.6
Family's Home				
	Rural	33%	37%	36%
	Urban	17%	13%	14%
	Suburb	50%	51%	50%

[1] Total percents may not equal 100 due to rounding.

small sample of students at St. Anselm College, and, with the assistance of a colleague, to students at the University of Miami. A total of 443 surveys were collected. Table 2-1 shows the demographic make-up of the sample.

Subjects were asked to anonymously fill out the survey package consisting of life events scales, demographic information, the personality indices, and the four outcomes of concern to this study (see Appendix).

The student population was chosen as a convenience sample. It has sometimes been criticized that the college sample is not representative of the larger population and therefore not suitable for this kind of research. On the contrary, I find this population is especially suitable because of their distinctive experience. The college environment imposes special demands on its population that may highlight issues of vulnerability and exposure to stress. A college sample may therefore be more likely to expose latent vulnerabilities not recognized in less stressed populations. In addition, the college population, for the most part, represent young adults who exist in a premarital/preoccupational state which largely eliminates stressors brought on by those roles.

Independent Variables

Differences based on gender have been tested for all

important findings in this research.

Psychosocial stressors have been measured innumerable ways in uncountable published studies. There is considerable ongoing discussion toward the nature of stressors and methodological issues concerning the conceptualization and measurement of the phenomena (see for instance: Mclean & Link, 1994; and Wheaton, 1996). The traditional method, pioneered by Holmes and Rahe (1967) was to consider life change in the form of discreet events. Others approached the problem by measuring chronic strain (see for instance: Kanner et al., 1981). In this study, I have chosen and adapted one measure of each type so as to assure representation of a broader domain of stress. For this study I have adopted Blair Wheaton's (1996) definition of stressors as, "conditions of threat, demands, or structural constraints that, by the very fact of their occurrence or existence, call into question the operating integrity of the organism" (p. 32).

Life events. The primary independent variable in this research is life events. A life events scale adapted for a young college population has been adopted. An index was adapted for adolescents and young adults and was developed to tap into the common stressful occurrences in the lives of the survey sample. The original guideline for life events was developed by Holmes and Rahe (1967). A later version

was developed specifically for adolescents (Coddington, 1972), and this version is an attempt to adjust a life events index appropriate for teens and young adults in the 1990s.

I have chosen not to weight life events, but give each item a single additive value. This is based on previous research that has shown little variance in item weights and most of the variance in between-person events (Shrout, 1981). I have also relied on the recommendations of Turner and Wheaton (1995) for unweighted events as well as their advice for including only negative or undesirable events, and for choosing a one year time frame in asking about events.

Ongoing Problems. Also commonly known more generically as "daily hassles," this scale is developed to supplement the life events indicators. Ongoing problems have been determined to be an alternative source of stress that may effect negative outcomes differently than discreet life events. Items for this scale were tailored to measure the type of current issues college students are likely to encounter.

Demographic measures. Ordinary demographic measures were collected to clarify the nature and background of the sample population. Socioeconomic status was determined for each subjects' family by asking for an estimation of annual

family income, parents' educational level, and parent occupation. Also, significant periods of parents' unemployment were measured.

The students' family home was queried and categorized as rural, suburban, or urban.

Age of subjects was collected, but the homogeneity of this population netted little variation based on this variable.

Personality Variables

The indicators that appeared to have the greatest efficacy and potential for effect in the stress process were chosen for this study:

Masculinity/femininity has been useful in finding some differences that do not appear in a discrete dichotomous measure. Stets (1995) has identified the seven most reliable items from the Personal Attributes Questionnaire (Spence, Helmreich, and Stapp, 1974). Those items are used in this study.

Mastery. Mastery "concerns the extent to which one regards one's life-chances as being under one's own control in contrast to being fatalistically ruled" (Pearlin and Schooler, 1978:5). The Mastery Scale (MS) by Pearlin and Schooler is included because of its wide use in stress studies. Mastery is a construct closely associated with

locus of control.

Self Esteem also has a long tradition of being useful in stress research. Self esteem is "the evaluation which the individual makes and customarily maintains with regard to himself or herself; it expresses an attitude of approval or disapproval toward oneself" (Rosenberg, 1965:5). The Rosenberg Self Esteem Scale has been used in thousands of studies and is considered highly reliable. It was also chosen for its ease of administration and the simplicity of its 10 question format.

Commitment appears to have the strength of importance that Lazarus and Folkman (1984) predicted. Whether it is measured as a global characteristic (Kobasa *et al*, 1981), or implied by voluntary membership (Wheaton, 1980), commitment appears to affect the strength that events or other stressors have on individuals. For this construct the *Sense of Coherence* (SOC) by Antonovsky (1987) was selected. Sense of coherence is defined as a "global orientation that expresses the extent to which one has a pervasive, enduring through dynamic feeling of confidence," (p. 19). In addition, Neal and Groat's Meaninglessness (ME) scale (1974) was included to measure the other end of this dimension, *alienation*. Meaninglessness is defined as an individual's perception that social and political events are overwhelmingly complex, without purpose, and lacking in

predictability.

Authoritarianism was represented by the Right-Wing Authoritarianism (RWA): (Altmeyer, 1981). This personality characteristic has a long research tradition. Although Mirowsky and Ross (1986) identified it as an important component of stress outcomes, I believe it has been under-studied in the field of social stress research.

Neuroticism and *Extraversion* have often been measured using the Eysenck Personality Inventory (Eaves & Eysenck, 1975; Eysenck, 1967). Extraversion is a personality dimension from sociable, talkative, fun-loving, affectionate, adventurous at one end to retiring, sober, reserved, silent, and cautious at the other. For this study I have adapted the yes/no format of the Eysenck scales to conform to the 6 point Likert scale used in the rest of the survey.

Dependent Variables

Psychological Distress, or depressive symptomatology, is one of the most commonly used dependent variables in stress research because of its prevalence in society and because it is reliably measured on a reasonably wide continuum. The items for the depression index come entirely from the Center for Epidemiologic Studies Depression Scale (CES-D) (Radloff, 1977).

Anxiety is also prevalent in college populations and can be logically considered as responsive of stress and personality vulnerability. The preferred scale for this measure is the State-Trait Anxiety Inventory (STAI) by Spielberger (1983).

Alcohol and drug use as measured by the number of drinks, frequency of drinking, frequency of binge drinking, and use of tobacco and illegal drugs. An index of alcohol and drug use and consequences has been adapted from the Core Alcohol and Drug Survey (Presley, Meilman, and Lyerla, 1994) used nationally to measure the consumption of drugs and alcohol by college students. The Core Alcohol and Drug Survey has been used annually since 1989 to measure the prevalence of alcohol/drug use among American college students and its findings are widely reported each year in the mass media.

Deviant behavior is a relatively untested stress outcome. The items for this index are inspired by National Youth Survey Report (Elliot, Ageton, Huizinga, Knowles, and Canter, 1983). An index of illegal activity has been developed based on the types of behaviors teens and young adults are most commonly arrested for, as well as criminal behaviors described as antisocial in the Diagnostic and Statistical Manual (APA, 1994).

Table 2-2. Index reliabilities and alpha coefficients for the personality, stress, and outcome indices.

Index	# of items	interitem covariance	Scale reliability coefficient
Personality			
Masculinity/Femininity	6	.44	.65
Neuroticism	11	.93	.89
Authoritarianism	8	.38	.66
Self Esteem	10	.95	.91
Sense of Coherence	10	.36	.73
Mastery	7	.57	.82
Meaninglessness	8	.61	.79
Extraversion	10	.56	.82
Stress			
Life Events	19	.01	.62
Ongoing Problems	21	.08	.79
Outcomes			
Drug/Alcohol Use	15	1.25	.71
Deviance	31	.18	.82
Depression	10	.22	.80
State Anxiety	12	.27	.85

N= 443

Index reliabilities and alpha coefficients

After all surveys were received and the data entered into the computer alpha coefficients were calculated to the overall index reliability coefficients. Table 2-2 presents the results of this analysis. Item coefficients were calculated to determine if any items should be dropped from the analysis. Items with an alpha < .20 were examined and dropped if doing so produced a higher index reliability.

CHAPTER III

UNIVARIATE AND BIVARIATE RESULTS

Index Scores for Men and Women

Index scores for the eight personality dimensions, the two stress measures, and the four outcomes (drug and alcohol use, deviant behavior, depression, and state anxiety) were calculated for the entire sample and separately for men and women.

Gender, Personality and Stress. The sample means and means by gender for the personality and stress variables are presented in Table 3-1. Among the most outstanding differences in personality indicators is neuroticism ($t[438]= 3.89$, $p= .0001$) which provides one of the strongest distinctions between men and women. As expected, considerable gender differences were also found on the masculinity/femininity index[2]. Women scored higher than men on this abbreviated Eysenck neuroticism scale.

Differences were also found for authoritarianism ($t[438]= 2.97$, $p= .003$), as well as for self esteem ($t[439]=$

[2] Masculinity/femininity scores (as measured by an abbreviated version of the Personal Attributes Questionnaire) were 27.7 for men and 25.7 for women (with higher scores indicating greater masculinity). This difference is significant ($t= 4.11[439]$; $p< .0001$).

Table 3-1. Mean index scores for personality and stress for men and women.

Index	Men	Women	Both
Personality			
Masculinity/Femininity	27.1	22.8	24.4***
Neuroticism	28.9	33.2	31.7***
Authoritarianism	38.8	36.9	37.6**
Self Esteem	50.3	47.6	48.6**
Sense of Coherence	40.7	39.3	39.8*
Mastery	32.0	31.4	31.6
Meaninglessness	20.9	20.8	20.8
Extraversion	41.4	41.2	41.3
Stress			
Ongoing Problems	12.5	13.9	13.4*
Life Events	4.3	4.2	4.2

N= 159 men; 282 women
* $p < .05$ ** $p < .005$ *** $p < .0001$

2.65, p= .008), with men scoring higher on both indices. There was also a difference found for sense of coherence (t[437]= 2.37, p= .018) with men scoring higher on this scale as well.

No significant differences between men and women were found for mastery (t[437]= 1.02, p= .31), meaninglessness (t[436]= .10, p= .92), or for extraversion (t[439]= .39, p= .70).

The life events scale represents the number of discrete events in the previous year each respondent had experienced from a list of 25 stressful events common to a student population. Men report slightly more events than women

Table 3-2. Proportions of the sample reporting experience with selected life events in the last year.

Life event stressor	Men %	Women %
Had a major conflict with a teacher	22.6	16.2
Got kicked off a team or out of a club	1.2	.7
Got caught stealing something	5.7	1.3**
Got arrested for doing something illegal	13.2	2.4***
Someone in my immediate family died	24.5	17.2
Someone in my immediate family had a serious accident or illness	31.4	37.7
Someone else close to me died	27.7	31.0
Someone else close to me had a serious accident or illness	24.5	34.0
Parents divorced or separated	5.7	7.1
Had to quit doing a job, sport or after school activity because of health condition	3.8	6.1
Became embarrassed because of something that someone in my family did in front of friends or classmates	18.9	24.2
Broke up with a girlfriend/boyfriend	39.6	44.3
Had to move to a different city or state when I didn't want to	5.0	3.7
Got suspended from school or put on probation	10.7	4.7*
Got into a severe accident	5.0	2.7
Something valuable of mine was lost, destroyed, or stolen	40.9	32.4
I was physically assaulted by someone	10.7	4.1**
I (or my girlfriend) got pregnant	3.8	3.0
Pressured by friends or parents into doing something I really didn't want to do	35.8	26.7*
Got drunk and regretted it	39.6	41.2
Had serious trouble with a roommate	17.6	27.4*
Failed a class	17.0	11.1
Was fired or laid off unexpectedly from a job	1.9	5.4
Didn't get into a wanted activity	22.6	19.3
Lost my driver's license or driving privilege	1.9	2.4

N= 159 men; 296 women
* $p < .05$ ** $p < .005$ *** $p < .0001$

(4.3; 4.2) however the difference is not significant ($t[436] = .70$, $p = .48$). Gender means for individual items are presented in Table 3-2.

The differences between men and women in the areas of

delinquent/criminal behavior are expected ("Got caught stealing something" {$t[454] = 2.65$, $p = .008$}; and "Got arrested for doing something illegal" {$t[454] = 4.70$, $p < .001$}) with men reporting higher frequencies in both categories. Men also reported a higher likelihood of school suspension/probation ($t[453] = 2.42$, $p = .016$), and greater victimization of physical assault ($t[453] = 2.78$, $p = .006$).

Table 3-3. Proportions of the sample reporting experience with selected ongoing problems in the last year.

Ongoing problem stressor	Men's Score†	Women's Score†
I've been trying to take on too many things at once	.88	1.14***
There is too much pressure on me to be like other people	.57	.47
Too much is expected of me by others	.66	.75
I don't have enough money to buy things I need	.99	1.13
My student loans or other debts are becoming too large	.60	.90***
I don't have enough money to go home when I want	.29	.41
My course load is heavier than most students	.43	.56
I'm doing so much I feel both mentally and physically tired	.84	1.01*
I work harder than most people do	.83	.82
I want to achieve more, but things get in my way	.98	.95
I'm not in a relationship, but wish I was	.76	.70
I'm in a relationship that has a lot of problems	.27	.29
It's difficult to find someone who is compatible with me	.68	.68
I wonder if I'll ever get married	.70	.88*
I'm alone too much	.42	.47
I have friends who are a bad influence on me	.50	.13***
I don't have as many friends as I'd like	.39	.50
I don't have enough time for things I'd really like to do	.94	1.16
I live with a person or people who cause problems for me	.30	.36
It's too noisy for me where I live	.33	.34
I have a health problem that limits the things I like to do	.09	.16

† Item scores are the sum of response choices: "Not True"= 0; "Somewhat True"= 1; "Very True"= 2.
N= 159 men; 298 women
* $p < .05$ ** $p < .005$ *** $p < .0001$

Men were also more likely to report being pressured by friends or parents into doing something they didn't want to (t[453]= 2.04, p= .04). The only item where women reported a significantly higher frequency of occurrence is, "Had serious trouble with a roommate (t[453]= 2.33, p= .02).

A significant gender difference was found for ongoing problems, with women experiencing an average index score of 13.9 on the 21 items common to this population, and men experiencing an average score of 12.5 at the present time (t[438]= 2.23, p= .027). Whereas life events items are discrete phenomenon with little room for ambiguity, the ongoing problems index is loaded with items left to the respondent's perception of occurrence. Also, subjects are given a 3 point ordinal scale for estimating the strength of the stressor. Table 3-3 shows the mean item scores for the ongoing problems index. Women reported more stress from "trying to take on too many things at once" than men (t[455]= 3.76, p< .001) and "doing so much I feel both mentally and physically tired" (t[455]= 2.22, p= .027). Also, women report more stress from mounting student loans (t[455]= 3.66, p< .001). The largest item difference comes from the statement, "I have friends who are a bad influence on me" (t[455]= 7.36, p< .001) with men reporting far greater frequency of this occurrence.

Gender and Stress Outcomes

Table 3-4 presents gender differences in means for the stress outcomes considered in this study: alcohol/drug use and non-substance deviant behaviors. Drug and alcohol use included a list of 15 items that indicate frequency and range of drug and alcohol involvement. Men scored substantially higher than women with an average index score of 30.5, whereas the women's score was 18.0 ($t[431]= 6.55$, $p < .0001$). There was also a statistically significant difference between men and women for the checklist of deviant and illegal behaviors (other than alcohol or drug use). Men's mean score was 11.3 for deviant behaviors and women's mean score was 6.8 ($t[436]= 6.68$, $p < .0001$).

Table 3-4. Mean index scores for stress outcomes for men and women.

Index	Men	Women	Both
Drug/Alcohol Use	30.5	18.0	22.5***
Deviance	11.3	6.8	8.5***
Depression	7.2	9.2	8.5***
State Anxiety	14.2	15.0	14.7

N= 159 men; 282 women
*** <.0005

A gender difference was also found in scores for depressive symptomatology with women scoring higher (9.2 for

women; 7.2 for men (t[439]= 3.80, p= .0002). There was no significant difference between men and women for the state anxiety score (t[439]= 1.45, p= .15).

Comparison of Sample and Population Proportions for Substance Use

Table 3-5 provides the sample proportions for substance abuse and related behaviors. Proportions for alcohol use

Table 3-5. Proportions of the sample reporting involvement in selected drug use and behavior in the last year.

Behavior	Sample		National	
	Men	Women	Men	Women
	%	%	%	%
Smoked cigarettes (5 or more)	44	47	46	36
Got drunk	86	82	85	85
Binged in last 2 weeks	77	50	51	35
Drank explicitly to get drunk	69	59	*	*
Drove a car while drunk	51	27		35**
Smoked pot or hash	62	50	30	24
Sold marijuana	20	10	*	*
Used cocaine	9	5	7	4
Used amphetamines	13	14	6	4
Used sedatives	6	5	3	2
Used hallucinogens	34	15	7	3
Used opiates	6	1	1	<1
Used steroids	1	1	1	0
Took other illegal drugs	14	8	*	*
Sold hard drugs	5	1	*	*
Average # of drinks per week	12.6	5.1		

* Data not available
** National data not available by sex
N= Current sample: 160 men; 280 women
National sample: 21,726 men; 30,792 women

this sample are generally consistent with national norms for a college population (Presley, Meilman, & Lyerla, 1994), however cigarette smoking and drug use is higher. Nationally, about 40% of college students smoke cigarettes. For the purpose of this study, a student was classified as a smoker if they reported smoking 5 or more times in the last year. In this sample, women report slightly higher rates of smoking (47.4% for women; 44.0% for men), however this difference is not significantly different ($chi^2 = .5$; $p = .48$).

Drinking remains a widely experienced college activity with most of those who report having gotten drunk doing so 5 or more times in the past year. Only about 15% of college students, both nationally and in the sample, report *not* getting drunk at least once in the last year.

Binge drinking, defined by the CORE Alcohol Survey as having 5 or more drinks in one sitting, is above national levels for both men and women. When region is taken into account, the New Hampshire sample binges more than the national average (53% Northeast Region; 67% New Hampshire) and the New Hampshire students consume more drinks per week (9.1) than the region average of 7.1 drinks per week ($t[329] = 3.38$, $p = .0008$). The Miami sample is on par for the number of drinks per week in the Southern region (4.0 for the Miami sample; 3.9 for the Southern region; $t[107] =$

.22, p= .83). Forty-three percent of students binged in the Miami sample compared to 35% for the Southern region (not significantly different, t[110]= 1.74, p= .084). Additionally, nearly half of all students report driving while intoxicated with 12% of the sample admitting to driving drunk 5 or more times in the past year.

Levels of marijuana use appear much higher than national trends. Sixty-two percent of men and 50% of women report having inhaled in the last year. This sex difference is significant (chi^2= 5.8; p= .016). Other drug activities indicate that while most college students do not appear to engage in the use of illegal drugs, a small percentage do, and that over one-third of the sampled males have engaged in the use of hallucinogens with over 16% having done so 4 or more times in the past year, a rate nearly 5 times higher than the national average.

The sale of drugs appears to be primarily a male enterprise although a full 10% of women appear willing to traffic in the sale of marijuana.

There are two possible explanations for the discrepancies in drug use between the research sample and the national sample. First, the national data is from 1989 to 1991 and recent reports indicate drug use among teens has been rising steadily since the early years of the decade. The second explanation may be in the nature of the

institutions sampled. The three campuses surveyed for this study are heavily enrolled by students who live at, or very near, the institution, and most live in a "student culture" where excesses in drinking and drug use appear to be more prevalent than those campuses where more students are of the "commuter" variety.

Sample Proportions for Non-Substance Deviance

The rates of deviance are shown in Table 3-6. As

Table 3-6. Proportions of the sample reporting involvement in selected deviant and/or illegal behavior in the year.

Offense	Sample Men %	Women %
Stole worth less than $20	47	27
Stole between $20 & $300	14	6
Stole worth over $300	3	<1
Set fire to building/car/property	6	0
Vandal/destroyed property	29	7
Took car/cycle w/o permission	10	6
Made obscene phone calls	19	9
Forged a check/credit card	4	3
Forced sex against their will	3	1
Hit someone with an object/fist	38	25
Entered build/house to steal or damage something	7	2
Tried to buy/sell stolen things	13	2
Started/tried to pick a fight	32	9
Got a moving violation	39	25
Skipped class without an excuse	84	82
Cheated at school	48	39
Was arrested for a crime	12	2
Spent time in a jail	3	2

N= 159 men; 280 women

predicted by most crime models, men are far more likely to perform deviant behavior than women. The only instance where there is no difference is, "skipping class without an excuse," probably the least socially deviant behavior on the list.

Sample Proportions for Alcohol Consequences

Table 3-7 reports the proportions of students experiencing negative consequences as a result of their drinking or drug use in the past year. Over 11% of students

Table 3-7. Proportions of the sample reporting experiences of alcohol consequences behavior in the last year.

Behavior	Sample Men %	Sample Women %	National Men & Women %
Had a hangover	78	73	62
Performed poorly on a test	70	56	23
Been in trouble with authorities	31	16	13
Damaged property	22	3	8
Got into an argument/fight	56	53	29
Got nauseated/vomited	66	63	49
Been loud or rowdy in public	32	18	*
Missed a class	77	62	29
Been criticized by someone	70	56	36
Thought I might have a problem	27	14	12
Had a memory loss	51	35	28
Done something I later regretted	60	52	39
Been arrested for DWI/DUI	1	1	2
Been taken advantage of sexually	8	13	15
Tried unsuccessfully to stop	7	3	6
Seriously thought about suicide	11	10	5
Seriously tried to commit suicide	2	0	*
Been hurt or injured	25	12	16

* Data not available
N= Current sample: 157 men; 282 women
National sample: 55,670

report experiencing none of the listed consequences in the past year, with most of them reporting zero number of drinks consumed per week (88%).

The vast majority of the sample report having suffered from a hangover in the last year with 48% of men and 31% women experiencing 5 or more. Drinking interferes with school responsibilities for the majority of students (or vice versa) with 61% of students reporting at least one poor performance on a test or important project because of their drinking or drug use, and 67% missing at least one class. Sixty-eight percent of the respondents report missing 5 or more classes due to their substance abuses.

Although there is a high level of drunk driving in self reports, arrests for this offense appear to be very low with only 2 men and 2 women having been collared. One of the men had multiple offenses. There is a difference between men and women based on alcohol consequence index scores ($t[437] = 4.51$, $p < .001$). In almost every category, the sample suffers from more alcohol consequences than the national average.

Correlations among the Variables

Life Events. Correlation coefficients are reported in Table 3-8. Several predicted relationships appear in this sample. Low, positive relationships are found between life

events and each of the stress outcomes: depression (r= .26), anxiety (r= .22), drugs/alcohol use (r= .30), and deviant behavior (r= .37). These bivariate associations are all statistically significant at p< .001.

Ongoing Problems. Ongoing problems as a measure of stress are also found to be positively and quite substantially correlated with both depression (r= .52) and anxiety (r= .43). The relationship between ongoing problems and deviant behavior is also positive (r= .13), but weak, and the relationship with drug/alcohol use (r= -.02) is not statistically significant.

Personality and Gender. Consistent with the t tests presented earlier, significant correlations are found between gender and several personality variables. Women are more prone to neuroticism (r= .19) while men are more likely to be authoritarian (r= -.15), exhibit higher self esteem (r= -.13), and have a higher sense of coherence (r= -.12). As expected, gender is moderately associated with the masculinity/femininity index (r= .45). The associations between gender and both neuroticism and self esteem are supported by previous research. However the relationship with authoritarianism is not. Relationships between gender and the personality variables of mastery, meaninglessness, and extraversion were not statistically significant.

Significant correlations were found between gender and

Table 3-8. Correlations among gender, personality variables, stress variables, and stress outcome variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. gender	1.00														
2. masculinity/femininity	-0.45[c]	1.00													
3. neuroticism	0.19[c]	-0.45[c]	1.00												
4. authoritarianism	-0.15[b]	0.10[a]	0.01	1.00											
5. self esteem	-0.13[b]	0.45[c]	-0.57[c]	0.09	1.00										
6. sense of coherence	-0.12[a]	0.38[c]	-0.60[c]	0.14[b]	0.63[c]	1.00									
7. mastery	-0.05	0.39[c]	-0.55[c]	0.12[a]	0.66[c]	0.66[c]	1.00								
8. meaninglessness	-0.01	-0.19[c]	0.38[c]	-0.11[a]	-0.34[c]	-0.41[c]	-0.41[c]	1.00							
9. extraversion	-0.02	0.13[b]	-0.21[c]	0.02	0.23[c]	0.33[c]	0.21[c]	-0.10[a]	1.00						
10. ongoing problems	0.10[a]	-0.22[c]	0.51[c]	-0.03	-0.40[c]	-0.46[c]	-0.46[c]	0.36[c]	-0.10[a]	1.00					
11. life events	-0.04	-0.06	0.14[b]	-0.05	-0.16[c]	-0.19[c]	-0.27[c]	0.15[b]	0.07	0.29[c]	1.00				
12. depression	0.18[c]	-0.39[c]	0.58[c]	-0.07	-0.70[c]	-0.58[c]	-0.60[c]	0.36[c]	-0.15[b]	0.52[c]	0.26[c]	1.00			
13. anxiety	0.07	-0.33[c]	0.57[c]	-0.01	-0.52[c]	-0.43[c]	-0.46[c]	0.30[c]	-0.04	0.43[c]	0.22[c]	0.61[c]	1.00		
14. drugs & alcohol	-0.30[c]	0.11[a]	-0.02	-0.09	-0.13[b]	-0.08	-0.10[a]	0.03	0.18[c]	-0.02	0.30[c]	0.03	0.02	1.00	
15. deviant behavior	-0.30[c]	0.13[a]	0.06	0.06	-0.08	-0.14[b]	-0.11[a]	0.10[a]	0.09	0.13[a]	0.37[c]	0.10[a]	0.08	0.45[c]	1.00

(n= 426)

[a] p< .05
[b] p< .01
[c] p< .001

drugs/alcohol use (r= -.30) as well as gender and deviant behavior (r= -.30). The negative direction of these relationships indicates that men are more involved in substance use and deviance. The relationship between gender and depression is also significant (r= .18) and indicates that women experience higher levels of depressive symptomatology.

Personality and Stress Outcomes. Neuroticism, self esteem, sense of coherence, mastery, and meaninglessness are all substantially correlated with both depressive symptomatology and state anxiety (in the expected directions) and each of these relationships is significant below the .001 level. Additionally, self esteem is negatively related to drug and alcohol use (r= -.13) and sense of coherence is negatively related to non-substance deviant behavior (r=-.14).

Weaker but still statistically significant, mastery is negatively correlated with both drug and alcohol use (r= -.10) and non-substance deviant behavior (r= -.11). Meaninglessness is positively associated with deviant behavior (r= .10).

Another expected relationship found to be significant is between extraversion and depression (r= -.15) as is a positive relationship between extraversion and drug/alcohol use (r= .18).

CHAPTER IV

RESULTS II:
TESTS OF GENDER & PERSONALITY IN THE STRESS PROCESS

Model 1: Main Effects of Gender, Personality, and Stress

Earlier analyses showed observed differences between men and women on three of the four stress outcomes tested: depressive symptomatology; alcohol/drug use; and non-substance deviant behavior. State anxiety has been dropped from the following analysis due to the lack of observed differences between men and women. Model 1 tests for the independent effects of each of the independent variables of gender, stress, and the eight personality variables on the stress outcomes of deviant behavior, drug and alcohol use, and depressive symptomatology. This Ordinary Least Squares multiple regression model appears as:

$$H_i = b_0 + b_1[gender] + b_2[paq] + b_3[neu] + b_4[rwa] + b_5[rse] + b_6[soc] + b_7[ms] + b_8[me] + b_9[ext] + b_{10}[events] + b_{11}[op] + e$$

where H_i is the stress outcome (depressive symptomatology; drug and alcohol use; or non-substance deviant behavior). The personality variables included are (as indicated by their computer variable names): *paq* for masculinity; *neu* for neuroticism; *rwa* for right-wing authoritarianism; *rse* for self esteem; *soc* for sense of coherence; and *ms* for mastery;

Table 4-1. The direct effect of gender, personality and stress on deviant behaviors, drug and alcohol use, and depressive symptomatology (standardized coefficients).

	deviance N= 432	*drugs/alcohol* N= 428	*depression* N= 434
Gender	-.27***	-.29***	.08*
Masculinity	.08	.07	-.001
Neuroticism	.03	-.03	.12*
Authoritarian	.05	-.10*	.02
Self Esteem	-.04	-.22***	-.43***
Sense of Coh	-.18**	-.10	-.09
Mastery	.07	.01	-.08
Meaninglessnes	.02	-.04	.05
Extraversion	.10*	.21***	.04
Life events	.33***	.27***	.07*
Ongoing prob's	-.0007	-.13*	.16***
R^2	.25	.26	.59
Adjusted R^2	.23	.24	.58

* $p<$ .05 ** $p<$ .01 *** $p<$ .001

me for meaninglessness; and *ext* for extraversion. The two stress variables are represented by *events* for stressful life events, and *op* for ongoing problems.

Table 4-1 displays the standardized coefficients for gender, the eight personality variables, and the two stress measures on each of the stress outcomes. These are also later displayed in step 3 of the hierarchical regressions testing for the intervening effects of personality.

Gender. Results show a significant main effect of gender on each of the stress outcomes. The deviance (ß= -.27) and drug/alcohol (ß= -.29) relationships are significant below the .001 level, and the gender-depression relationship (ß= .08) is significant below the .05 level.

The negative slopes for deviance and drug/alcohol use indicate that men are more likely to experience these outcomes independent of personality and stress. The positive slope for depressive symptomatology indicates that women are more at risk for this outcome, independent of other factors.

Personality. Table 4-1 also reveals a number of expected findings concerning the relationships between these personality variables and stress outcomes. The significant positive relationships between neuroticism and depression (ß= .12; $p< .05$) and the significant negative relationships between self esteem and drug/alcohol use (ß= -.22; $p< .001$) and self esteem with depressive symptomatology (ß= -.43; $p< .001$), are predicted by previous research (Ormel, Stewart, and Sanderman, 1989). The negative relationship between sense of coherence and deviant behavior (ß= -.18; $p< .01$) was also expected.

The relationships between extraversion and both deviance (ß= .10; $p< .05$) and drug/alcohol use (ß= .21; $p< .001$) are significant, however the relationship between extraversion and depressive symptomatology is not significant in this multiple regression model.

An unexpected finding in this analysis is the lack of association between mastery and any of the stress outcomes. Current theory (Thoits, 1987) suggests that personal resources in the domain of psychological control, of which

mastery is such a measure, would significantly effect stress outcomes, particularly depression.

Life events. Stressful life events also are significantly associated with deviance (ß= .33; *p*> .001), drug/alcohol (ß= .27; *p*> .001), and depressive symptomatology (ß= .07; *p*> .05). For each outcome, an increase in the number of life events experiences predicts an increase in the outcome score. The result for depressive symptomatology was expected and supported by prior research (Turner, Wheaton and Lloyd, 1995). The prior research on the stress-drugs/alcohol connection is less substantiated and these results represent strong evidence for such a link in this population. The relationship between life events and deviant behavior is even less studied and the strong positive relationship found here serves to confirm such a connection exists in this population.

Ongoing Problems. There is a moderate and positive association between ongoing problems and depressive symptomatology (ß= .16; *p*< .001), and evidence of a slight negative effect of ongoing problems on drugs and alcohol use (ß= -.13; *p*< .05). No relationship between ongoing problems and deviant behaviors was found (ß= .00; *p*> .05).

The findings concerning the relationship between ongoing problems and drug/alcohol use are not what one would expect. It was hypothesized that as these kinds of current and ongoing stressors increases, the risk of self-medication

through drug and/or alcohol use would also increase, however results instead showed the opposite. Further examination of the simple bivariate relationship between ongoing problems and drugs netted an r^2 of .001 (p= .505). Further analysis revealed that a negative relationship first becomes significant for those in the lowest 33% in terms of drug/alcohol index score indicating that the significance of the negative slope is most influenced by those who consume the smallest amounts of drugs and alcohol.

Model 2: Mediating or Intervening Effects

The second model considers the possible mediating or intervening effects of personality between gender and stress outcomes within the stress process. Hierarchical regression is used to test for the mediating effects of personality. Step 1 of the basic model is as follows:

$$H_i = b_0 + b_2 G + e$$

where H_i is the stress outcome (depressive symptomatology; drug and alcohol use; or non-substance deviant behavior), G is the gender of the respondent (coded 1= female), and e is the residual from the prediction equation. Step 2 of the hierarchical procedure appears as follows:

$$H_i = b_0 + b_1 G + b_2 [paq] + b_3 [neu] + b_4 [rwa] + b_5 [rse] + b_6 [soc] + b_7 [ms] + b_8 [me] + b_9 [ext] + e$$

with the personality variables included (as indicated by their computer variable names): *paq* for masculinity; *neu* for neuroticism; *rwa* for right-wing authoritarianism; *rse* for self esteem; *soc* for sense of coherence; and *ms* for mastery; *me* for meaninglessness; and *ext* for extraversion. Step 3 of the hierarchical procedure adds the stress variables as follows:

$$H_i = b_0 + b_1 G + b_2 [paq] + b_3 [neu] + b_4 [rwa] + b_5 [rse] + b_6 [soc] + b_7 [ms] + b_8 [me] + b_9 [ext] + b_{10} [events] + b_{11} [op] + e$$

with the stress variables, life events (*events*) and ongoing problems (*op*) included.

Alcohol and drug use. Regression analyses with respect to the alcohol/drug outcome are presented in Table 4-2. In the first step, we see the regression coefficient for the relationship between gender and alcohol/drug use to be significant (ß= -.30; $p< .001$). In step 2 of the hierarchical regression the personality variables have been included and the beta coefficient is virtually unchanged (ß= -.31; $p< .001$). In step 3 I have added the two stress indexes and, again, the beta coefficient change is negligible (ß= -.29; $p< .001$). Extraversion appears as the strongest personality indicator in college student substance

Table 4-2. Hierarchical regression for gender, personality, and stress on alcohol and drug use (standardized coefficients).

Effects	Step 1	Step 2	Step 3
On alcohol/drugs:	N=433	N=428	N=426
Gender	-.30***	-.31***	-.29***
Masculinity		.06	.07
Neuroticism		-.07	-.03
Authoritarianism		-.11*	-.10*
Self Esteem		-.21**	-.22***
Sense of Coherence		-.10	-.10
Mastery		-.03	.01
Meaninglessness		-.05	-.04
Extraversion		.24***	.21***
Life Events			.27***
Ongoing Problems			-.13*
R^2	.09	.19	.26
Adjusted R^2		.17	.24

* $p<$ .05 ** $p<$ .01 *** $p<$ .001

use, being positively correlated (ß= .24; $p<$ .001 [step 2] and .21; $p<$ .001 [step 3]). Also very strongly, but negatively related to higher substance use is self esteem (ß= -.21; $p<$ .001 [step 2] and -.22; $p<$ .001 [step 3]). Life events are strongly related (ß= .27; $p<$ .001) as are ongoing problems (ß= -.13; $p<$ .001), however this latter relationship is negative.

The gender differences have not been explained away by the addition of the personality variables, nor by the further addition of the stress variables. For alcohol and drug use, being male is associated with higher levels of consumption and is not affected significantly by personality or stress factors.

Table 4-3. Hierarchical regression for gender, personality, and stress on (non-substance) deviant behaviors (standardized coefficients).

Effects	Step 1	Step 2	Step 3
On deviance:	N=438	N=432	N=430
Gender	-.30***	-.29***	-.27***
Masculinity		.09	.08
Neuroticism		.03	.03
Authoritarianism		.04	.05
Self Esteem		-.04	-.04
Sense of Coherence		-.20**	-.18**
Mastery		-.01	.07
Meaninglessness		.03	.02
Extraversion		.15**	.10*
Life Events			.33***
Ongoing Problems			-.0007
R^2	.09	.15	.25
Adjusted R^2		.13	.23

* $p<$ .05 ** $p<$ .01 *** $p<$ .001

Non-substance deviant behavior. Table 4-3 tells a very similar story for deviant behaviors. The standardized beta coefficient for the bivariate relationship between gender and deviant behavior is significant (ß= -.30; $p<$ .001). In step 2 of the hierarchical regression the personality variables were once again included and the beta coefficient for gender is virtually unchanged (ß= -.29; $p<$ .001). In step 3 the two stress indexes have been added and, again, the beta coefficient change is negligible (ß= -.28; $p<$ .001). Sense of coherence has emerged as the strongest personality indicator in college student deviance, being negatively correlated (ß= -.20; $p<$ .001 [step 2] and -.18; $p<$ .001 [step 3]). This seems to show that those who are

the least connected to those around them are the most likely to be engaged in deviant activities. Extraversion has a significant effect on deviant behavior (ß= .15; $p< .001$ [step 2]) and remains significant when the two stress variables are added (ß= .10; $p< .001$ [step 3]), however it does not change the effect of gender in the model. Life events is strongly related (ß= .33; $p< .001$), however there is no effect of ongoing problems on deviance (ß= -.0007; $p> .05$).

Once again, the gender differences have not been explained away by the addition of the personality variables, nor by the further addition of the stress variables. Simply being male is associated with higher levels of deviant activity and this association is not affected significantly by personality or stress factors.

Depressive symptomatology. Table 4-4 shows that the gender-depression relationship can be partially explained by personality factors.

The coefficient for the bivariate relationship between gender and depression is found to be significant (ß= .18; $p< .001$) as predicted by all earlier research. In step 2, with addition of the personality variables, the beta coefficient for gender decreases substantially (ß= .09; $p< .001$). The relationship between gender and depression has been partially explained by the addition of personality indicators, however the beta for gender remains

Table 4-4. Hierarchical regression for gender, personality, and stress on depression (standardized coefficients).

Effects	Step 1	Step 2	Step 3
On depression:	N=441	N=434	N=432
Gender	.18***	.09*	.08*
Masculinity		.02	-.001
Neuroticism		.17***	.12*
Authoritarianism		.02	.02
Self Esteem		-.42***	-.43***
Sense of Coherence		-.12*	-.09
Mastery		-.14**	-.08
Meaninglessness		.07	.05
Extraversion		.06	.04
Life Events			.07*
Ongoing Problems			.16***
R^2	.03	.57	.59
Adjusted R^2		.56	.58

* $p < .05$ ** $p < .01$ *** $p < .001$

statistically significant ($p = .015$). In step 3 the life events and ongoing problems factors are included and the beta for gender is reduced only slightly to .08 ($p = .026$). In step 2 self esteem has the strongest effect on depression with neuroticism and mastery also contributing to the mediating character of personality. This is true to the extent that these factors are also related to gender. Sense of coherence provides the weakest effect among the significant personality factors.

Among the stress variables added in step 3, ongoing problems has the strongest effect with life events also showing a significant effect.

Model 3: Moderating or Interaction Effects

The third model considers the moderating or interaction effects of gender and personality in the stress process. Some previous research (Wheaton, 1985) suggests that personal resources may provide a buffer and reduce the harmful effect of exposure to stress. The basic model is as follows:

$$H_i = b_0 + b_1 S + b_2 M + b_3 S_x M + e$$

where H_i represents the stress outcome (drug and alcohol use; depressive symptomatology; or non-substance deviant behavior), and S is a variable describing the person's stress score (either life events or ongoing problems), M is the stress-modifying variable (either gender [1 = female] or one of the personality variables: masculinity; neuroticism; self esteem; sense of coherence; or extraversion) and e is the residual from the prediction equation.

Correlations among interaction terms. Correlations between the interaction terms appear in Table 4-5. Hamilton (1992) establishes a threshold of ±.9 to indicate the presence of multicollinearity among interaction terms. Multicollinearity exists among some of the significant interactions in this study and may be a problem. Most notable is a high correlation between life events and the masculinity-events interaction; and life events and the masculinity-ongoing problems interaction. These high *r*

Table 4-5. Correlations among interaction terms.

(n= 436)	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Life Events	1.00												
2. Gender	-0.03	1.00											
3. Gender X Life Events	0.54	0.69	1.00										
4. Masculinity	-0.07	-0.45	-0.35	1.00									
5. Masculinity X Life Events	0.94	-0.16	0.37	0.22	1.00								
6. Neuroticism	0.15	0.19	0.17	-0.45	0.01	1.00							
7. Neuroticism X Life Events	0.86	0.03	0.51	-0.24	0.74	0.54	1.00						
8. Self Esteem	-0.17	-0.13	-0.15	0.45	-0.03	-0.57	-0.38	1.00					
9. Self Esteem X Life Events	0.92	-0.05	0.48	0.08	0.92	-0.05	0.68	0.18	1.00				
10. Sense of Coherence	-0.19	-0.11	-0.17	0.37	-0.07	-0.60	-0.41	0.63	0.03	1.00			
11. Sense of Coherence X Life Events	0.94	-0.05	0.48	0.04	0.93	-0.03	0.71	0.02	0.95	0.10	1.00		
12. Extraversion	0.08	-0.01	0.07	0.13	0.10	-0.20	-0.01	0.22	0.15	0.31	0.17	1.00	
13. Extraversion X Life Events	0.94	-0.02	0.53	-0.03	0.89	0.08	0.79	-0.10	0.89	-0.09	0.92	0.36	1.00

(n= 438)	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Ongoing Problems	1.00												
2. Gender	0.10	1.00											
3. Gender X Ongoing Problems	0.56	0.79	1.00										
4. Masculinity	-0.22	-0.45	-0.44	1.00									
5. Masculinity X Ongoing Problems	0.90	-0.07	0.35	0.16	1.00								
6. Neuroticism	0.52	0.19	0.40	-0.45	0.34	1.00							
7. Neuroticism X Ongoing Problems	0.89	0.15	0.56	-0.34	0.73	0.81	1.00						
8. Self Esteem	-0.40	-0.13	-0.29	0.46	-0.21	-0.57	-0.53	1.00					
9. Self Esteem X Ongoing Problems	0.85	0.06	0.43	-0.02	0.87	0.27	0.65	0.08	1.00				
10. Sense of Coherence	-0.47	-0.11	-0.31	0.37	-0.31	-0.61	-0.58	0.63	-0.18	1.00			
11. Sense of Coherence X Ongoing Problems	0.90	0.08	0.48	-0.09	0.88	0.31	0.71	-0.17	0.90	-0.09	1.00		
12. Extraversion	-0.10	-0.01	-0.03	0.13	-0.08	-0.21	-0.14	0.23	-0.02	0.32	0.01	1.00	
13. Extraversion X Ongoing Problems	0.90	0.11	0.52	-0.18	0.81	0.42	0.78	-0.31	0.80	-0.32	0.87	0.29	1.00

values do signal caution in the final interpretation of models that use these variables.

Stress and Gender. As noted in Chapter 3 and in Model 1, there are significant relationships between gender and three of the stress outcomes tested: depressive symptomatology; drug and alcohol use; and non-substance deviant behavior. As shown in Step 2 of Table 4-6, a significant interaction is also evident between gender and life events on drug/alcohol use (ß= -.20; $p< .05$).

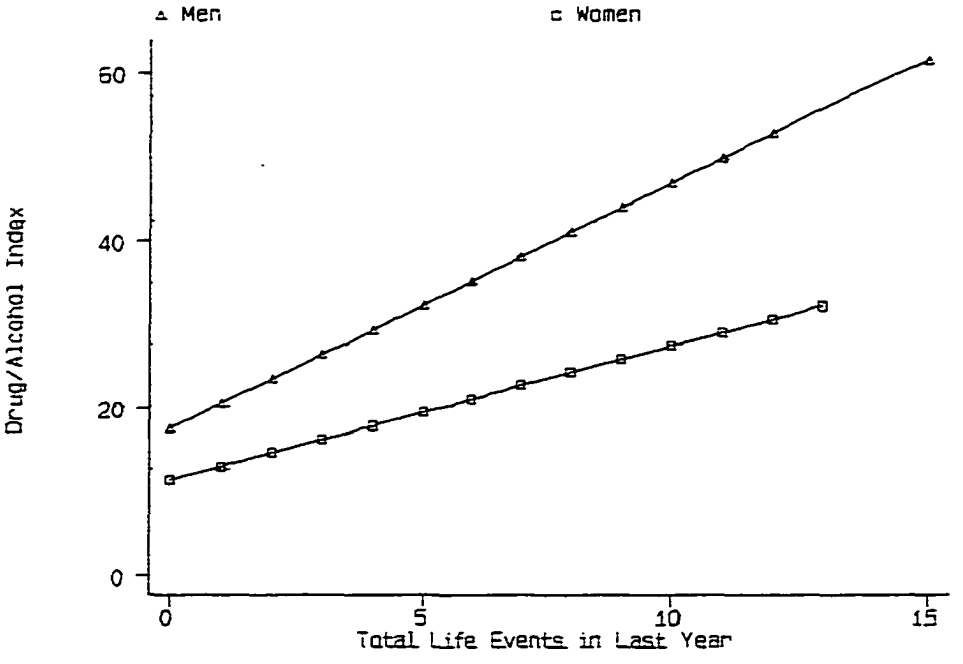
Table 4-6. The moderating effect of gender on drug and alcohol use in the context of stressful life events (standardized coefficients).

Effects	Step 1	Step 2	R^2	*Adj* R^2
On drug and alcohol use: N= 431				
Gender	-.29***	-.15		
Life events	.29***	.41***		
			.18	.17
Gender X Life events		-.20*	.18	.18

* $p< .05$ ** $p< .01$ *** $p< .001$

Figure 4-1 shows this interaction graphically. Results indicate that there is little difference between men's and women's drug and alcohol use at the lowest levels of life in events stress, however at higher levels of stress men engage in significantly greater drug and alcohol use relative to

Figure 4-1. Conditional effect plot, drug and alcohol use on stressful life events by gender.



women. The negative interaction term and steeper slope for men indicates that men are at greater risk of substance abuse with increased levels of life events stress, relative to women.

There are no other significant interactions between gender and stressful life events or between gender and ongoing problems for depressive symptomatology, drug and alcohol use, or non-substance deviant behavior. The results

of these tests can be found in the Appendix (Tables A-1 through A-5).

Stress and Personality. In considering the potential moderating effects of personality, the model is extended to include each of the personality characteristics and their interactions with the two stress variables. The complete model appears as follows:

$$H_i = b_0 + b_1 S + b_2 [paq] + b_3 [neu] + b_4 [rse] + b_5 [soc] + b_6 [ext] + b_7 S_x [pers] + e$$

where H_i remains the stress outcome (depressive symptomatology; drug and alcohol use; or non-substance deviant behavior), and S remains the person's stress score (either life events or ongoing problems). The personality variables are included in the equation as their computer variable names: *paq* for masculinity; *neu* for neuroticism; *rse* for self esteem; *soc* for sense of coherence; and *ext* for extraversion. And *e* is the residual from the prediction equation. S_x *[pers]* represents the interaction between the stress variable and a chosen personality variable[1]. Mastery was dropped from further analyses because of high collinearity with self esteem (r= .66) which produced high standard errors and unreliable beta coefficients in the multiple regression model.

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[1]All interaction analyses were performed a second time utilizing z scores for the main effects. No changes in outcomes were observed.

Table 4-7. The moderating effect of personality on drug and alcohol use in the context of stressful life events (standardized coefficients).

Effects	Step 1	Step 2	R^2	Adj R^2
On drug and alcohol use:	N= 431			
Life Events	.26****			
Masculinity	.19***			
Neuroticism	-.13*			
Self Esteem	-.22***			
Sense of Coherence	-.10			
Extraversion	.20***			
			.17	.16
Life Events X^2				
Masculinity		.55**	.19	.17
Neuroticism		.25	.18	.17
Self Esteem		.01	.18	.16
Sense of Coherence		.21	.18	.16
Extraversion		.14	.18	.16

* $p< .05$ ** $p< .010$ *** $p< .001$

Life Events and Personality. Multiple regression analyses produced only one notable interaction effect between a personality factor and life events, that being the interaction between masculinity and drug/alcohol use. There are no significant interaction effects found between any of the personality variables and life events stress on deviant behaviors, or between any personality variables and life events stress on depressive symptomatology (shown in the

[2]The interaction terms depicted in this table represent separate models based on the equation:

$$H_i = b_0 + b_1 S + b_2 [paq] + b_3 [neu] + b_4 [rse] + b_5 [soc] + b_6 [ext] + b_7 S_x [pers] + e$$

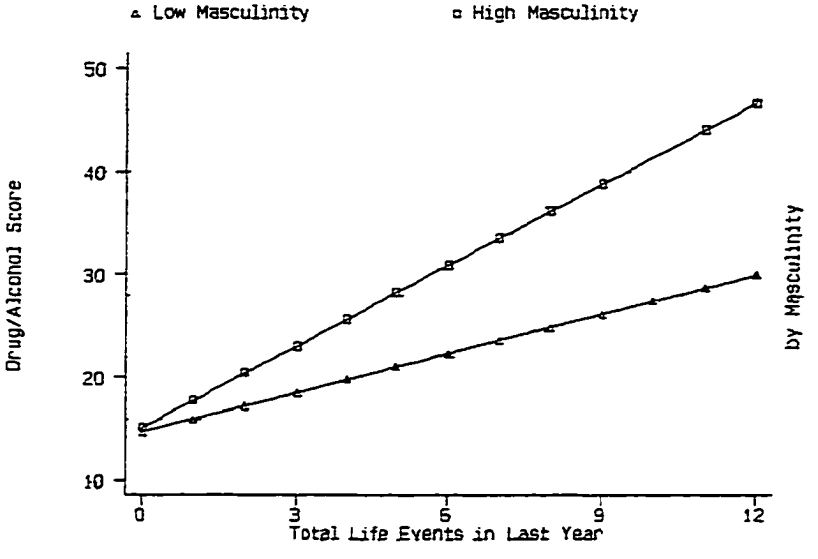
where S_x [pers] represents the interaction term indicated.

Appendix, Tables A-6 & A-7).

Table 4-7 shows the results of the moderating effects of personality on life events for drug and alcohol use. The only personality variable showing a significant interaction with life events is masculinity (ß= .55; $p<$ .01).

Figure 4-2 shows the conditional effect plot for high

Figure 4-2. Conditional effect plot, drug and alcohol use on stressful life events by low and high masculinity.



and low masculinity[3] for the model depicted in step 2 of Table 4-7. While the relationship between life events and drug/alcohol use remains significant and positive for both groups (low: ß= .21; $p< .001$; high: ß= .32; $p< .001$), the impact of life events on drug and alcohol use is greater for higher levels of masculinity than at lower levels. That is

Table 4-8. The moderating effect of personality on depressive symptomatology in the context of ongoing problems (standardized coefficients).

Effects	Step 1	Step 2	R^2	*Adj* R^2
On depressive symptomatology: N= 439				
Ongoing Problems	.19***			
Masculinity	-.04			
Neuroticism	.15**			
Self Esteem	-.44***			
Sense of Coherence	-.14**			
Extraversion	.06		.58	.57
Ongoing Problems X[4]				
Masculinity		-.31*	.58	.58
Neuroticism		.17	.58	.57
Self Esteem		-.29*	.58	.58
Sense of Coherence		-.30	.58	.58
Extraversion		-.11	.58	.57

* $p< .05$ ** $p< .010$ *** $p< .001$

[3]High and low groups were created dividing scores from the Personal Attributes Questionnaire (PAQ) at the mean (μ= 26.33): n(low)= 232; n(high)= 197.

[4]The interaction terms depicted in this table represent separate models based on the equation:

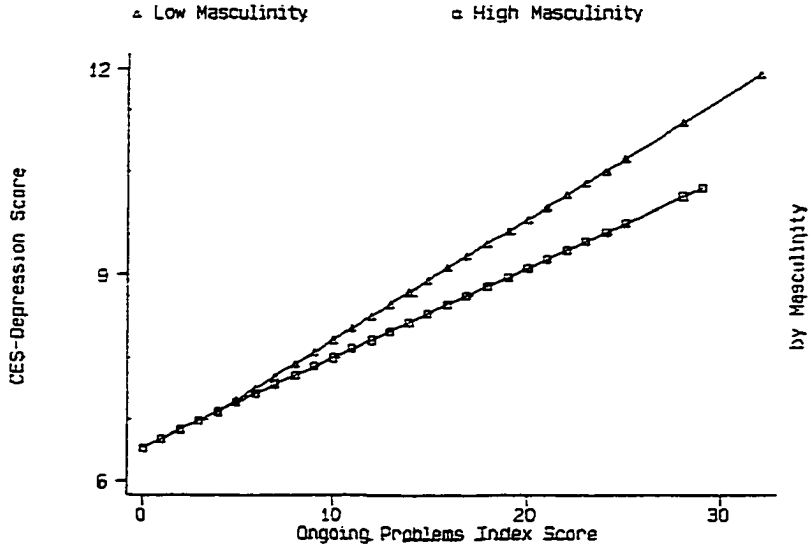
$$H_i = b_0 + b_1 S + b_2[paq] + b_3[neu] + b_4[rse] + b_5[soc] + b_6[ext] + b_7 S_x[pers] + e$$

where $S_x[pers]$ represents the interaction term indicated.

to say, the importance of low masculinity in protecting the individual from drug/alcohol use is greater as levels of stressful events increase.

Ongoing Problems and Personality. The only significant interaction between personality and ongoing problems was with depressive symptomatology. There were no significant interactions between any of the personality variables and

Figure 4-3. Conditional effect plot, depressive symptomatology on ongoing problems by low and high masculinity.

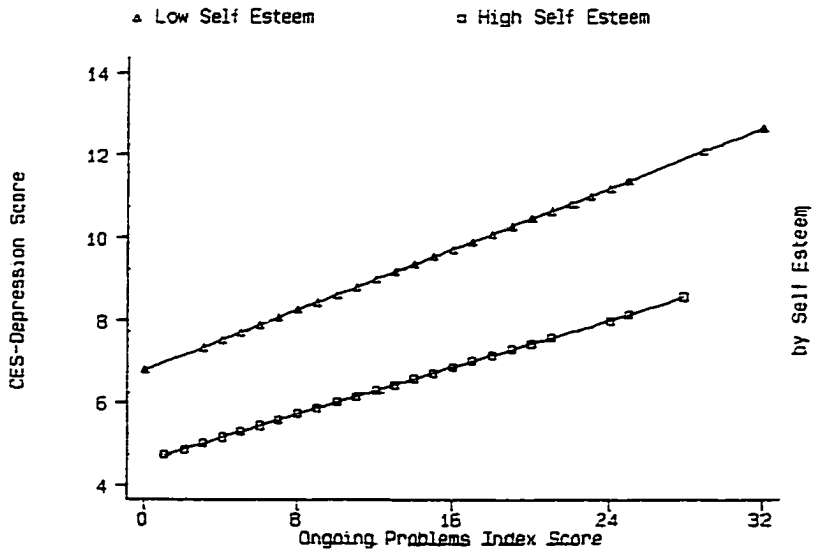


ongoing problems for either drug/alcohol use or deviant behaviors (shown in the Appendix, Tables A-8 & A-9).

Table 4-8 shows that masculinity has a significant negative interaction with ongoing problems (ß= -.31; $p< .05$) on depressive symptomatology as does self esteem (ß= -.29; $p< .05$).

Figure 4-3 shows the conditional effect plot for high

Figure 4-4. Conditional effect plot, depressive symptomatology on ongoing problems by low and high self esteem.



and low masculinity for the model depicted in step 2 of Table 4-8. The relationship between ongoing problems and depressive symptomatology is significant and positive for both groups (low: ß= .21; $p< .001$; high: ß= .18; $p< .01$). Figure 4-3 shows that the impact of ongoing problems stress on depression is greater among those low in masculinity compared to those high in masculinity.

Also shown in Table 4-8 is a significant negative interaction between self esteem and ongoing problems (ß= -.29; $p< .05$) on depressive symptomatology.

Figure 4-4 shows the conditional effect plot for high and low self esteem for the model depicted in step 2 of Table 4-8. The relationship between ongoing problems and depressive symptomatology is significant and positive for both groups (low: ß= .24; $p< .001$; high: ß= .23; $p< .01$). Figure 4-4 shows that the impact of ongoing problems stress on depression is greater among those low in self esteem compared to those high in self esteem.

CHAPTER V

SUMMARY & DISCUSSION

This exploratory research began by asking basic questions concerning the nature of gender and personality in the stress process. Four hundred and sixty surveys were completed in the Fall of 1996 and Winter of 1997 by 160 men and 298 women on three college campuses. The sample is primarily white, middle-class, and from families with two parents and where at least one parent has a college degree. Most of the sample are classified as "traditional" students, meaning they matriculated directly from high school and have maintained a class standing commensurate to their years in college.

The first research question considered the simple differences between men and women on each of the eight personality (vulnerability) variables measured and the two stress (exposure) variables common in the study population. I have then extended the examination to consider the direct, intervening, and moderating effects of personality in the stress process.

Model 1: Direct Effects

Gender Differences

From the early days of stress research, sex differences have continued to command the interest of researchers (e.g., Al-Issa, 1982; Barnard, 1971; Barnett, Biener & Baruch, 1987; Gove & Tudor, 1973; Kessler & McLeod, 1984). That women suffer more distress is well established (Turner, Wheaton & Lloyd, 1995), however the reason for the difference remains unresolved. Much of the search has been in the area of social roles or differences in coping styles. Kessler (1979) suggests that it is greater female vulnerability that explains the difference in the reaction to stress. Further studies pointed more to the exposure explanation, especially when stress events are disaggregated which shows that women report more, and respond more, to network events (Werthington, McLeod & Kessler, 1987). A limitation of the present study, a homogeneous college sample, is also an advantage in regard to the problem of gender related roles, as the study population is largely unmarried, free of child-rearing responsibilities, homogeneous in age and social status, and mostly uninhibited by the demands of career or professional work, therefore eliminating variance created by these factors. The primary demand, academic progress and achievement, is assumed to be about equal between men and women.

Differences in stress. This study found that women report greater levels of stress than men from ongoing problems, but not from life events stress. Previous studies of life events stress also show no sex differences (Newcomb, Huba, and Bentler, 1981; & Turner, Wheaton, and Lloyd, 1994; Werthington, McLeod & Kessler, 1987). While there are some previous findings of sex differences in life events exposure (Kessler and McLeod, 1984), these differences appear only after "network" events are included, a method of measurement not used in this study. Therefore the failure to find a sex difference for stressful life events is expected and understandable. There are some item differences for life events ("got caught stealing"; "got arrested"; "got assaulted"; "put on [school] probation"; "pressured by friends"). These differences, however, were not enough to produce a statistically significant difference in the overall life events index scores. The selection of items for the index in this study has provided a measure that expresses equal opportunity by students for exposure to stressors that are often unexpected and require immediate reaction from the individual.

Ongoing problems provide a slightly different measure of stress from life events because the index items rely more on the *perception* of stress than on the identification of discrete events. It is then interesting to note that women are significantly more likely to report feeling they "have

been trying to take on too many things at once," and "doing so much I feel both mentally and physically tired." Both of these issues may very well be due to greater involvement in activities and a greater commitment to duties such as schoolwork and would be supported by women's higher mean grade point average, however some care must be exercised in recognizing the gender difference.

Previous studies of stress from ongoing problems have shown sex differences with adolescent females experiencing greater problems (Seidman, et. al. 1995) as well as a community sample of adults (Turner, Wheaton, and Lloyd, 1994). In this sample of college students a similar difference was found. However, the strength of the difference with their male counterparts may also reflect a stronger reaction to a similar level of activity.

In one case, the perception of greater stress may be grounded in a real difference. Consistent with the findings of Seidman, et. al. (1995), this study identified females' greater stress involving a resource issue, namely, concern that student loans are becoming too large. A check with the financial aid office on the University of New Hampshire campus revealed that women do indeed apply for, and receive, significantly greater amounts in student loans in 1996.

Compatible with other findings of women's greater concern for social associations, women also report a greater concern about their future marital status.

The only item where men show significantly greater stress is from "friends who are a bad influence on me." This may be explained by the greater involvement by men in delinquent activities. Especially in the academy setting, there is great pressure for young men to participate in ventures their mothers may not approve. I suspect an interview of male subjects who felt this to be "very true" would reveal much of the pressure is toward alcohol and drug use.

Differences in personality. There are several expected sex differences for the personality indicators used in this study. The strongest difference came from the Personal Attributes Questionnaire measuring masculinity/femininity and this was thoroughly anticipated. The same difference was found by Stets (1995) in a similar sample. The degree of masculinity has been used as the focus of this measure in the present study because previous research has implied the characteristics associated with masculinity, more than just being male, are associated with mental health benefits. Some commentators predicted that the vast social changes of the 60s and 70s would have levelled the differences between men and women on the items in the Personal Attributes Questionnaire, but this seems not yet to have occurred. Stets (1995) states, "...while one's sex forms the basis of gender-appropriate behavior, people do not simply act on the basis of their sex. People act on meanings, and it is the

meaning of being male or female rather than one's sex that may be relevant..." (p. 130).

Women's higher neuroticism scores relative to men is important because they explain the second largest portion of the variance in stress outcomes of depression and anxiety for men and women. Shapiro (1989) defines neurosis as a condition of the personality reacting against itself. According to the child psychologist Selma Fraiberg (1959:9) "*A neurosis is a poor solution to conflict, or, more correctly, not a solution at all but a bad compromise.*" Energy is poorly spent on the maintenance of neurosis which could be better directed toward coping with or solving the stress situation. In the stress process this means that a person high in neuroticism may have all of the same resources as a person low in neuroticism, however their ability to actually use those resources is lost to the immobilizing character of the neurotic pattern. That women score higher on neuroticism is well established, but why is not often discussed. The answer may very well be due to individual differences brought about by socialization, where men are taught to be more instrumental, acting on their environment, and women taught to be more expressive, giving way to greater ruminations about their environment. Alternatively, or possibly in addition, the answer could also lie in sex stratification in that men are afforded easier access to resources that allow them to respond to

their environment more readily than women, therefore directing their energies more singularly outward rather than in the internal pattern of neurotic strategies.

The finding of lower self esteem for women is generally supported by recent studies (Eiser, Havermans & Eiser, 1995; Feldman, Ransom & Dimiceli, 1995; and Morgan, 1995). This is especially important if one believes that women who matriculate to the university level are more likely to have a greater sense of self esteem than their non-college counterparts due to their higher academic achievement. Based on the findings of Gove, Ortega, and Style (1989) this gap is predicted to close as the cohort grows older, but the observed difference at this age has some substantial effects on the stress outcomes (discussed later).

The failure to obtain gender differences in mastery was unexpected but not altogether surprising. Because mastery and self esteem are related constructs and "closely associated with achieved statuses" (Pearlin and Schooler, 1978), similar differences would be expected. Gecas (1989) predicts that we should find a gender difference, but earlier studies have been equivocal with differences typically found in children, but not adults (Turner & Roszell, 1994:189). Pearlin and Schooler (1978) found a slight negative, but insignificant, relationship between being female and mastery scores in adults. The age of the sample in the present study, combined with the homogeneity

of educational achievement along with social class serve as the best explanations for the similarity in mastery scores.

No sex differences were found for meaninglessness or extraversion. There was no surprise in these findings as these two variables showed the weakest differences in previous research.

Differences in stress outcomes. Men were found to have significantly higher scores for the indexes measuring drug/alcohol use and (non-substance) deviant behavior. Women's scores for depression were significantly higher than men's. These findings were thoroughly expected.

Previous national surveys of college students have found similar sex differences for drug and alcohol use (Presley, Meilman, and Lyerla, 1994). These findings are primarily a function of men's greater frequency of use of drugs and alcohol as well as a greater overall prevalence, however there is no sex difference based on some high prevalence items such as, "Got drunk," (in the last year) which accounts for 86% of men and 82% of women. The student culture on most American college campuses in the 1990's puts great demands on students to engage generally in alcohol consumption irrespective of gender. Over 60% of the subjects in this study were under 21 years of age and bivariate analysis of the age relationship shows alcohol and drug use decline for both men and women in this sample as they grow older.

The expectation that young men engage in deviant behavior and delinquent behavior (a subset of deviant behavior) more frequently than young women is so strong that this bivariate difference is rarely even reported in published research. For example, in his Presidential Address to the American Society of Criminology, Delbert Elliot (1993; p. 14) makes only a passing reference to the fact that far fewer violent offenders are female, and he devotes most of his analysis to differences based on race and the continuity of offending into adulthood. So, there is no surprise that sex differences in deviance are among the strongest differences found in this study.

The interesting finding concerning deviance is something long known to researchers of delinquency: middle-class and upper middle-class youth engage in as much deviant behavior as other social classes (see for instance: Short and Nye, 1958; Dentler and Monroe, 1961; Akers, 1964; and Kelly and Pink, 1973). Because the arrest rate for this group is extremely low, the primary tool for discovering the high rate of middle class delinquency has been the self-report survey. Only about 5% of this sample have ever been arrested for a crime, and less than half of them spent time in a lock-up facility.

The sex differences for depression are well established in research literature and the findings in this study showing more depressive symptomatology in women were among

the most predictable findings. In spite of these strong findings, the explanation for this difference is still quite elusive.

One popular hypothesis involves social roles (Barnett and Baruch, 1987). This approach says that certain roles confer mental health advantages, and that men typically occupy more advantageous roles than women (such as marriage and work). This hypothesis is extraneous to this sample because over 93% of the sample is single and all subjects are engaged in the activity of "working" as a student. There are other sex-role occupancies not accounted for in this study, but the homogeneity of this sample weakens support for the social roles hypothesis in favor of a socialization hypothesis. The two hypotheses will be discussed in the section on Model 2: Mediating or Intervening Effects.

There were no significant sex differences for state anxiety. This is not an altogether unexpected finding in that there were no strong indications from previous research to predict such an outcome.

Direct Effects of Personality

Some personality characteristics appear to play a role in the outcomes I have examined. Meaninglessness and mastery lose all significance in the multiple regression

model used to test direct effects. Masculinity is rendered insignificant, but does suffer from multicollinearity with gender. When gender is dropped from the analysis, masculinity becomes significantly and positively correlated with drug/alcohol use and deviance. It remains nonsignificant in the model with depression.

Personality and Deviance. The one personality variable that predicts deviance is sense of coherence. Hirschi (1969) gives us a starting point for understanding this association by stating, "delinquent acts result when an individual's bond to society is weak or broken" (p. 16). Sense of coherence is a logical measure of that bond. Earlier theories of deviance implied the question, "Why do some people commit deviant acts?" Hirschi's approach to delinquency was revolutionary because it turned the question on its head asking, "What *prevents* most people from committing deviant acts?" The answer is a sense of coherence, or connectedness to the rest of society. When that connection is strong, the likelihood of engaging in behaviors of larceny or aggression against others is reduced. When that connection is weak, the sense of responsibility to others is also weakened, and the subtle social forces that suppress deviant behavior are not as strongly felt.

There are some logical grounds for considering some other personality variables in the deviance relationship. A

general notion exists that lower self esteem may somehow effect deviant behavior. There is no evidence for that assumption in this study. Another consideration is that high neuroticism would be associated with higher deviance. This was also not found, possibly because the nature of neuroticism is equally as likely to lead to no action for some people as it would lead some others to outrageous behavior.

Personality and Drug/Alcohol Use. The strongest personality predictor of drug/alcohol use is self esteem (showing a negative association). This finding is suggesting that high self-esteem can help to protect the individual from excessive drug and alcohol use. In the other direction, it stands to reason that individuals who feel poorly about themselves are at greater risk of using alcohol and drugs as a self-medicating effort to reduce the uncomfortable feelings represented by low self esteem.

A separate analysis of gender indicates the self esteem-drug/alcohol relationship is gender specific, effecting women but not men. This might be explained by men's greater overall use of drugs and alcohol that overwhelms any relationship with personality variables. This phenomenon of a female (but not male) relationship to drug and alcohol use happens with extraversion as well.

Like self esteem, the association between extraversion and drug/alcohol use seems transparent, but bears some

comment. Three of the 10 index items for this variable contain the word "party" and each of the rest conjures images of group activities in the college setting. Alcohol has been previously established as an integral part of the college experience, so it appears that those who seek out the company of others and identify most with being gregarious are likely to experience greater exposure to situations where alcohol and drugs are present.

The small but significant negative association between drug/alcohol use and right-wing authoritarianism is also note-worthy. Although the literature implies authoritarianism is associated with inflexibility and mistrust, it may also signal identification with more conservative values and an inhibition to excesses in the use of alcohol and, especially, drugs.

Personality and Depressive Symptomatology. The strongest personality factor affecting depressive symptomatology is self esteem. This negative association has the effect of overwhelming all other personality variables leaving neuroticism emerging as the only other significant personality predictor. Neuroticism is positively associated with depression.

The self esteem-depression connection is among the most firmly established personality-distress relationships in the research literature, so this finding is completely expected. Rosenberg, et al (1989) says, "If the desire for positive

self regard is a major motive of human beings, then the frustration of such a motive would almost inevitably be experienced as depressing" (p. 1007). From the vast amount of available research, it appears that the impact of self esteem on depression cannot be overstated. There is still room for questioning the causal direction of this relationship. However, Turner and Rozell (1994) refer to self esteem as "a crucial resource for combating the negative implications for self that are the frequent accompaniments of stressful events" (p. 191). This view paints a portrait of depression as an ever-present malady held at bay by the protective features of self esteem, and they conclude that the important part of the causation moves from self esteem to depression as evidenced from their own and others' research.

Direct Effects of Stress

Both life events and ongoing problems showed significant direct effects on each of the three outcomes in this study, holding constant gender and personality, in all cases except the relationship between ongoing problems and deviance.

Life events stress has benefitted from years of tacit acceptance as a satisfactory measure of stress. Wheaton (1996) suggests this has been one of the shortcomings of stress research and that multiple measures are needed.

Earlier, Wheaton (1983) used an engineering metaphor for the stress process by saying, "if catastrophic forces act like a hammer, then continuous forces act like slow poison." Catastrophic forces in this study are those measured by the life events index, and continuous forces are measured by the ongoing problems index. In this sample there is a low, but significant positive correlation between the two measures of stress.

Given Wheaton's engineering metaphor, the relationship between stress and psychological symptoms seems like an easy leap. The efficacy of this connection has nonetheless been the ongoing topic of discussion among social stress researchers for some time (see for instance: Dohrenwend, B. S. and Dohrenwend, B. P., 1978; Thoits, 1983; McLean and Link, 1994; and Wheaton, 1996). The primary issues inspired by these discussions focus on the strength of stress factors and a general failure to adequately measure the relevant variables. These issues have been at least partially addressed by a presumed limitation of this study- the homogeneity of the sample. By choosing a college sample that is largely single, young, and middle-class, I was able to narrow the list of stressors (both events and ongoing problems) to those items that are most frequent and most relevant to this population. Therefore, I have a high degree of confidence in the face validity of both measures, and feel that both catastrophic forces as well as continuous

forces of stress have been tapped.

Deviance. The strongest relationship was between life events and (non-substance) deviance and is among the more important findings of this study. Little previous (stress) research has focused on this outcome and the fact that all other factors (except gender) show little influence is noteworthy. Even when men and women are considered separately, the strength of life events on deviance remains as strong for both groups (stronger for women). Limitations of this study make it difficult to explain this finding without a great deal of speculation, but the first logical step is to again rely on social control theory. Social control theory considers that the absence of deviant behavior is due to a high degree of response to social controls on the part of the individual. We can also consider the plausibility of stressful events acting to drain personal resources that would otherwise be directed toward complying with those controlling forces. Deviance is therefore an outcome of a weakened individual structure less able to resist temptation toward these behaviors.

The possibility of confounding or reverse causation cannot be overlooked. Individuals who, by nature or situation, are more involved in deviant activities may be putting themselves at higher risk for stressful events. This is certainly plausible and warrants further investigation with a more sophisticated research design.

Alcohol and drug use. Some of the same issues apply to the second strongest stress relationship, that between life events and drug/alcohol use. Again, separate analyses show the relationship equally as strong for both men and women. While the same possibility for reverse causation exists, it is more logical to consider that people increase their drug and alcohol consumption in response to the discomfort of stressful events, than the opposite. Quite plausibly, those who use drugs and alcohol, especially those who consume the greatest amounts, expose themselves to greater risk of stressful events, especially events that involve rejection or difficulties with others, accident, or arrest. While this possibility exists, and is likely to be true in some cases, the weight of previous research and theoretical regard lean toward drug and alcohol consumption as a response to increases in the number of stressful events.

Confidence in these explanations are somewhat weakened by the *negative* relationship between stress from ongoing problems and drug/alcohol use. Whatever argument is made to suggest that stress from life events leads to increases in drug and alcohol consumption, the same would be logically true for continuous stress measured by ongoing problems. The answer may lie in the nature of the index items and the population the items are directed toward. Many of the items refer to stress that would likely come from high achievement motivations such as, *"I've been trying to take on too many*

things at once," and *"I work harder than most people do."* In spite of the finding that alcohol and drug consumption is relatively high in this population, it is plausible the feelings of stress from high achievement are felt as signals to conserve personal resources that would be lessened by consumption of larger amounts of drugs and alcohol.

Depressive symptomatology. Both life events and ongoing problems are significantly related to depression. Pearlin, et al (1983) stated that, "it is our view that depression may be especially sensitive to a distinctive kind of experience, namely, undesired experience that is both enduring and resistant to efforts aimed at change" (p. 342). That may explain why ongoing problems showed a stronger relationship than life events. When discrete events do happen, they are either dealt with by available means, or, when that is not possible, typically lose strength over time. Ongoing problems, on the other hand, tend to be those types of stressors that are less easily solved by the actor's response or resources.

Model 2: Mediating or Intervening Effects

In the first part of this research a strong relationship between gender and three of the four outcomes tested (drug/alcohol use, deviant behavior, and depressive symptomatology) was established. The second model tests the

intervening effect of personality and stress between gender and these outcomes. State anxiety was dropped from further analysis due the failure to find any sex differences.

Deviance and drug/alcohol use. The results show that gender differences in alcohol/drug use and deviant behavior exist substantially on their own with no indirect effect due to personality or stress. Self esteem, extraversion and authoritarianism showed significance in the model of alcohol/drug use, however these still had no effect on the strength of the gender-alcohol/drug relationship. Even the addition of stress indicators (both of which were significant) were unable to alter the gender-alcohol/drug relationship. The only personality variables showing significance in the gender-deviance model are sense of coherence and extraversion, however they too failed to alter the strength of the gender effect. The significance of life events in the third step of the hierarchical model still did not change the beta in the gender-deviance relationship.

A direct or main effect is simply the factor we are most interested in studying, whereas indirect effects of moderators are those that succeed in constraining the extent and intensity of stress outcomes (Pearlin, 1989). In the case of deviance and drug/alcohol use, I have also determined gender to be the direct effect because it emerges as the strongest predictor of these outcomes. It is important to note that these two outcomes primarily measure

behavioral responses to stress, and just being male or just being female overwhelms all other factors tested with men being far more likely to engage in these outcomes.

The question then arises: What is not being tested that would help explain the strength of gender alone in deviance and drug/alcohol use? The traditional interpretation of gender differences in the stress process is used not for behaviors but for distress and lies in role-related reactions (to be discussed further in the next section). These traditional interpretations are used to explain *women's* greater response to stress, not men's, and rely on structural explanations (see for instance: Cleary & Mechanic, 1983; Gore & Mangione, 1983; and Aneshensel & Pearlin, 1987). A better explanation for men's greater activity in deviance and drug/alcohol comes from early sex-role socialization.

The strength of sex-role identity in early child development is rarely in dispute, however the mechanism is often taken for granted. Kaplan (1996) expresses the process this way:

> A child of a particular gender, for example, will be rewarded for displaying certain behaviors and characteristics-- those displayed by certain role models with which the child will be asked to identify depending on a number of social conditions such as reward value associated by the subject with traits of the putative role model-- but not others. The establishment of an appropriate sex-role identity may be motivated by the need to identify with a model in order to command the attractive goals possessed by the model. Children appear to make the assumption

> that if they possessed some of the external characteristics of the model they would also possess the desirable psychological properties such as power or love from others (p. 381).

Nancy Chodorow (1978, 1990) has suggested that boys and girls begin life similarly by both being identified with their mother, but boys must go to greater lengths to separate as they strive to identify with their fathers, a task that is complicated by the fact that fathers (typically) work outside the home. Boys are raised with firm sanctions to not "act like a girl" and to be tough, strong, and independent. Girls, on the other hand, are reinforced for responding to their mothers as role models and encouraged for their replication of domestic and mothering roles. Chodorow refers to this as "gender reproduction" seeing gender identity emerging from this social organization of parenting roles. For both sexes gender reproduction is corroborated by other agents of socialization including media, schools, and peers, all of which provide strong messages that boys grow to men and "*do*" while girls grow to women and "*be*." Another ingredient leading to the early adult differences in behavior is that girls are more supervised than boys.

The early socialization of boys provides fertile training for later activities in deviance and drug/alcohol use, whereas the early training of girls has a greater suppression effect for these activities. The college atmosphere in the 1990s provides an aura of drinking and

drug use which exposes both sexes to equally to high levels of drug/alcohol use, however the difference between men and women can be best explained by the socialization that came before their college experience. Men's greater deviance can be similarly explained by the longer tether afforded boys before they matriculate to the academy.

Depressive symptomatology. Some personality variables did have an indirect effect between gender and depression. This effect however was not enough to completely render the gender-depression relationship insignificant even after the addition of the two stress variables. Self esteem was the strongest mediating personality dimension with neuroticism contributing strongly when personality variables are considered alone and still significant when the stress variables are added to the equation. Sense of coherence and mastery show significant indirect effects before adding the stress variables to the model.

Sociological theory is well-equipped to address this sex difference in women's greater depressive response to stress. Aneshensal and Pearlin (1987) build on earlier findings that social role occupancy provides strong evidence for the best explanation of the observed difference. They go on to say, "Moreover, these structured differences have their origins not in the psyches of individual women and men, we submit, but in the sex stratification of the social system" (p. 76).

Although many of the social roles tested by Aneshensal and Pearlin (and others) are in the area of work, occupations, and family, roles not yet occupied by most of the subjects in this study, by early adulthood young men and women have already developed ways of perceiving and interacting with their social environment based on sexual stratification. Women reaching young adulthood are faced with personal issues which are structurally tied to early socialization that are not as strong for men, such as personal safety, responsibilities for others, and dependency. These issues linked to the female role possess subtle but measurable burdens leading to depressive consequences.

Personality and stress partially mediate the gender difference for depression, raising the explained variance from 3% to 57% although they still did not completely explain the difference in depression. Self esteem accounts for the largest effect and, as discussed earlier, can have a substantial impact on the well-being of an individual. The discomfort of this impact is most frequently manifested in depression. Neuroticism, which accounts for the second strongest personality mediator, can also be understood by the discussion above. Neurotic systems, by definition, employ inefficient, energy-wasting strategies to tackle the difficulties of life. This unrewarded draining of valuable energy would quite understandably lead to a depressive

response.

Gender differences in substance use and deviance can also be appraised with structural analysis. Early childhood socialization is strongly influenced by the social structure and continues to influence individuals' behaviors throughout their development and social structures continue to shape and reinforce this socialization up to their arrival on the college campus. Children are given substantial gender role instruction in the family as infants and toddlers and this process is supported by the reading materials to which they are exposed. Early research exposed the strength of these role definitions (Weitzman, Eiffer, Hokada, and Ross, 1972), and more recent research has affirmed the persistence of this socialization to the current decade in children's movies and television (Helman & Bookspan, 1992) where it is observed that male figures occupy the lead roles and primary characters and female figures exist in support roles.

New structures encountered in the school experience continue to shape the process of socialization. Commonly referred to as the "second curriculum" (Best, 1983), children learn from the beginning of their school careers that gender will be the principal form of categorization and this is further reinforced by the content of curricular materials used in the classroom (Purcell & Stewart, 1990) although there has been substantial improvement in the visibility of females in recent years (Clark, Lennon, &

Morris, 1993). Subtle but pervasive messages are also transmitted by the types of schoolyard activities in which children engage where boys commonly participate in team sports that utilize large field spaces and girls remain in more limited spaces, usually closer to the school building and with more adult supervision.

Sports becomes a further metaphor for the greater importance of male activities in later school years. Only male sports command admission fees for spectators and wide acceptance by the student body and adults and male teams frequently represent the pride of the school. Although federal law has long directed that resources for school-sponsored activities shall be equal for men's and women's sports, that equality does not yet exist in most venues. Young women can find their importance only in support roles of cheerleader, spectator, or in peripheral duties. Although female sports have shown greater acceptance in recent years (NBA Women's Basketball became a reality in 1997), involvement in athletic pursuits remains antithetical to traditional femininity, whereas involvement by men in sports reinforces traditional masculinity.

These structured childhood experiences help to explain how traditional patterns of socialization evolve for young men and women, even in the "enlightened" 1990s, however the discussion must go deeper to explain why young men engage in more substance use and deviance as they enter the college

environment. The most likely answer lies in the differential opportunity structures provided to adolescents before they graduate high school and leave home for college. There exists a traditional "double standard" where parents monitor the activities and whereabouts of their daughters more closely than their sons (Morash, 1986; Rosenbaum, 1987). Also, when adolescent girls do act out, they are disproportionately detained and processed by authorities for status offenses such as running away for home, parental curfew violations, and premarital sexual intercourse (Chesney-Lind, 1995). This increased social control of young women suppresses their opportunity for finding mischief whereas young men are allowed to stay out later at night and to be out of touch with parental controls for increasingly longer periods at an earlier age, affording greater opportunities to engage in drinking, drug use, and other deviance.

The impact of these early structured experiences shape the habits of young men and women who matriculate to college. The current college environment advances these distinctions once again by emphasizing the differences between men and women's activities and opportunities that provide a structural explanation for differences in behavior. Although not measured in this study, the nature of the Greek system, for instance, is stratified by gender and reinforces male and female stereotypes by placing great

importance on tradition. Among the traditional requirements for acceptance in most fraternities (albeit unsanctioned by school authorities) is the demonstration of vigorous drinking ability and stamina. Evidence for the continuation of this practice is provided at the beginning of each school year with the deaths of a few young men from alcohol-related causes, and in nearly every case the fraternity system is implicated as providing the environment for such extreme drinking. Minor deviance (such as the taking of license plates) is part of the induction process and sexual prowess is also rewarded and encouraged. Sororities and other collegiate women's groups, on the other hand, are required to consider many issues by which men are not generally bothered. Women's reputations are more easily tainted by involvement in criminal activities and by frequent casual sex, and women have to be more vigilant about issues concerning physical safety and pregnancy. This makes the social environment like coed group activities or dating structurally different for men and women especially if drinking and drugs are a part of the scene.

Another possible structural explanation (also not analyzed in this study) is that college major may have some bearing on gendered differences in substance use, deviance, and depression. Some college majors remain heavily occupied by either males or females. Fields such as engineering and chemistry are dominated by male students and liberal arts

are dominated by female students. This effect may be subtle at best, however the fact that among the topics of study in liberal arts courses often include areas of substance abuse, crime, mental health, family, and so on, students frequenting these courses are likely to posses stronger sensitivities to these issues because they are better equipped to assess and evaluate the ramifications of their own, and their peers', behavior. In addition, this difference by major may be giving those who study issues of the human condition (more likely to be women) a better vocabulary and sensitivity for recognizing their own transient despair, possibly influencing higher scores on scales of depression, whereas male dominated majors typically do not study personal issues in depth and instead perpetuate traditional male characteristics of competition, aggression, and dominance.

The current college environment appears to hold a number of gendered differences that can have an impact on men's and women's behavior. At each juncture of life, boys and girls are faced with structural boundaries that impact their behavior and shape their attitudes, values, and expectations for the next stage. The structured nature of sex-role expectations is unbroken from cradle to early adulthood.

Model 3: Moderating or Interaction Effects

Gender and stress. The only interaction between gender and stress with stress outcomes is found between life events and drug/alcohol use. Women do engage in greater amounts of drugs and alcohol use with increased life event stressors, and this relationship is significant below .001, however the impact of greater levels of stress is even stronger for men.

Any explanation must not be lost in the fact that *both* men and women respond to greater levels of life events stress with increases in drug/alcohol use. The question being asked is, "Why are men *more* reactive to stress than women with their use of drugs and alcohol?" The likely answer is that the pattern for this response has been established in men's overall use of these substances, whereas women have been socialized to restrain from using alcohol or drugs as an acceptable response to undesirable life events. When young men drink heavily or use drugs, this activity can enhance the sex-role expectation that he is tough, independent, and can "handle it" (even when he doesn't in reality). When young women use excessive amounts of drugs or alcohol, even if its in response to increased events, the social environment is less complimentary, viewing her as loose and "adding to her own problems." These divergent social reactions based on sex will certainly have an inhibiting effect on women's greater use of alcohol

and drugs overall, and this extends to the stress-substance use relationship.

The finding of differential sex effects in the outcomes I've explored emphasizes the efficacy of Pearlin's (1989) advice to use multiple outcomes in stress research and also highlights the concern stated by Aneshensel, Rutter, and Lachenbruch (1991) that findings cannot be generalized beyond the tested outcome.

Personality and stress. When personality variables and stressors are included in the analysis interaction effects are evident for both drug/alcohol use and depression. No significant interaction effects were found for deviant behavior. Meaninglessness was dropped from these analyses because it failed to produce any significant effects.

The gender interaction noted above is replicated in the personality variable of masculinity. Higher levels of masculinity are associated with a greater risk of using alcohol or drugs as levels of life events stress increase. This adds credibility to the claim that it's gender role characteristics, as much as one's biological sex, that guides behavior (Stets, 1995). More masculine identity, whether the person is male or female, will be more likely to trigger a response to stress with greater substance use. Regardless of the person's underlying reasons for gender role characteristics, masculine attributes result in a greater use of drugs and alcohol as a behavioral response to

higher levels of stress.

The same is true for the moderating effect of masculinity in the stress-depression relationship, except that it is lower levels of masculinity that are associated with higher levels of depression (for ongoing problems stress, but not life events stress), indicating that gender role characteristics are also at work in this relationship.

The only other personality variable showing significant interaction effects was self esteem in the (ongoing) stress-depression relationship. Lower levels of self esteem signal an increase in depressive symptomatology as levels of ongoing stress increase.

This inverse relationship for the interaction between life events and self esteem is predicted by earlier studies (Rosenberg, 1985). The primary operation of self esteem has been linked to the larger structure of resilience which Kaplan (1996:231-232) described as "the ability to achieve good outcomes in the face of stressful life circumstances that would ordinarily predict otherwise." Turner and Roszell (1994) posit the temporal direction from self esteem to depression, more likely than the reverse, based on their evaluation of important community panel studies on the association between stress, self esteem, and depression.

Self esteem is firmly established in the research literature for its direct association with diverse measures of distress and well-being, and emerging research shows the

importance of the interaction of self esteem with many other factors. Kaplan (1996) describes self esteem as a superordinate moderator that may operate through other mechanisms as well.

CONCLUSION

This study has applied some well tested methods in stress process research and has explored the addition of personality variables and stress outcomes in combinations not previously performed. Among the most important findings of this study were the persistent emergence of gender and gender role characteristics as the preeminent factors in predicting outcomes in the stress process. Other expected findings for personality variables and stress were confirmed by this research, however the impact of gender is stronger. This is especially poignant because of the nature of the sample which, for the most part, has not yet entered into gender specified divisions of labor based on family or occupational roles, roles which were previously believed to contain much of the explanation for sex differences in stress outcomes.

A number of gender differences have been confirmed by this study including differences in three stress outcomes: drug/alcohol use; deviance; and depressive symptomatology. The personality differences based on gender were all

expected and supported by previous studies.

Among the personality variables demonstrated to be valuable in this research, masculinity has been demonstrated to be both valuable and problematic, depending on the outcome. Self esteem has persistently surfaced as an important factor, both for its mediating effect in alcohol/drug use and depressive symptomatology, as well as it moderating value in depression.

The value of testing multiple outcomes is also affirmed in this study. One develops a general sense from the body of stress research that men are less impacted by stress than women because the most common outcomes tested are psychological disturbance. This study indicates that women are more likely to react to stress by internal means manifested in psychological distress, whereas men are more prone to external manifestations such as increased alcohol and drug use or increased deviance. The implication is that men and women may be more identical in stress vulnerability than is commonly believed, but the reaction to stress is different.

The best explanation of sex differences in stress response lies in the socialization of gender roles structured in the lives of young men and women.

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APPENDIX

Table A-1. The moderating effect of gender on deviant behaviors in the context of stressful life events (standardized coefficients).

Effects	Step 1	Step 2	R^2	*Adj* R^2
On deviant behaviors:	N= 436			
Gender	-.29***	-.27***		
Life events	.37***	.38***		
			.23	.22
Gender X Life events		-.04	.23	.22

* $p<$ .05 ** $p<$ .010 *** $p<$ .001

Table A-2. The moderating effect of gender on depressive symptomatology in the context of stressful life events (standardized coefficients).

Effects	Step 1	Step 2	R^2	*Adj* R^2
On depressive symptomatology:	N= 438			
Gender	.19***	.21*		
Life events	.26***	.28***		
			.10	.10
Gender X Life events		-.04	.10	.10

* $p<$ .05 ** $p<$ .010 *** $p<$ .001

Table A-3. The moderating effect of gender on drug and alcohol use in the context of stressful ongoing problems (standardized coefficients).

Effects	Step 1	Step 2	R^2	*Adj* R^2
On drug and alcohol use: N= 433				
Gender	-.30***	-.46***		
Ongoing Problems	.003	-.10		
			.09	.09
Gender X Ongoing Problems		.21	.10	.09

* $p<$ .05 ** $p<$ .010 *** $p<$ .001

Table A-4. The moderating effect of gender on deviant behaviors in the context of ongoing problems (standardized coefficients).

Effects	Step 1	Step 2	R^2	*Adj* R^2
On deviant behaviors: N= 437				
Gender	-.32***	-.24*		
Ongoing problems	.15***	.20**		
			.11	.11
Gender X Ongoing problems		-.11	.12	.11

* $p<$ .05 ** $p<$ .010 *** $p<$ .001

Table A-5. The moderating effect of gender on depressive symptomatology in the context of ongoing problems (standardized coefficients).

Effects	Step 1	Step 2	R^2	Adj R^2
On depressive symptomatology: N= 440				
Gender	.12**	.04		
Ongoing problems	.50***	.44***		
			.28	.27
Gender X Ongoing problems		.12	.28	.27

* $p<$ .05 ** $p<$ .010 *** $p<$ .001

Table A-6. The moderating effect of personality on deviant behaviors in the context of stressful life events (standardized coefficients).

Effects	Step 1	Step 2	R^2	Adj R^2
On deviant behaviors:	N= 433			
Life Events	.34***			
Masculinity	.22***			
Neuroticism	.01			
Self Esteem	-.04			
Sense of Coherence	-.16*			
Extraversion	.10*			
			.19	.18
Life Events X[5]				
Masculinity		.10	.19	.18
Neuroticism		.06	.19	.18
Self Esteem		.05	.19	.18
Sense of Coherence		-.07	.19	.18
Extraversion		.32	.19	.18

* $p<$ .05 ** $p<$ .010 *** $p<$ .001

[5]The interaction terms depicted in this table represent separate models based on the equation:

$$H_i = b_0 + b_1 S + b_2 [paq] + b_3 [neu] + b_4 [rse] + b_5 [soc] + b_6 [ext] + b_7 S_x [pers] + e$$

where S_x [pers] represents the interaction term indicated.

Table A-7. The moderating effect of personality on depressive symptomatology in the context of stressful life events (standardized coefficients).

Effects	Step 1	Step 2	R^2	Adj R^2
On depressive symptomatology:	N= 437			
Life Events	.10**			
Masculinity	-.03			
Neuroticism	.20***			
Self Esteem	-.46***			
Sense of Coherence	-.16***			
Extraversion	.06		.56	.56
Life Events X[6]				
Masculinity		-.28	.56	.56
Neuroticism		.17	.56	.56
Self Esteem		-.26	.56	.56
Sense of Coherence		-.27	.56	.56
Extraversion		-.28	.56	.56

* $p< .05$ ** $p< .010$ *** $p< .001$

[6]The interaction terms depicted in this table represent separate models based on the equation:

$$H_i = b_0 + b_1 S + b_2[aaq] + b_3[neu] + b_4[rse] + b_5[soc] + b_6[ext] + b_7 S_x[pers] + e$$

where $S_x[pers]$ represents the interaction term indicated.

Table A-8. The moderating effect of personality on deviant behaviors in the context of ongoing problems (standardized coefficients).

Effects	Step 1	Step 2	R^2	Adj R^2
On deviant behaviors:	N= 435			
Ongoing Problems	.06			
Masculinity	.22***			
Neuroticism	.002			
Self Esteem	-.07			
Sense of Coherence	-.20**			
Extraversion	.15**			
			.08	.07
Ongoing Problems X[7]				
Masculinity		.23	.09	.07
Neuroticism		-.13	.08	.07
Self Esteem		.14	.09	.07
Sense of Coherence		.08	.08	.07
Extraversion		.19	.09	.07

* $p< .05$ ** $p< .010$ *** $p< .001$

[7]The interaction terms depicted in this table represent separate models based on the equation:

$$H_i = b_0 + b_1 S + b_2[paq] + b_3[neu] + b_4[rse] + b_5[soc] + b_6[ext] + b_7 S_x[pers] + e$$

where $S_x[pers]$ represents the interaction term indicated.

Table A-9. The moderating effect of personality on drug and alcohol use in the context of ongoing problems (standardized coefficients).

Effects	Step 1	Step 2	R^2	Adj R^2
On alcohol and drug use:	N= 433			
Ongoing Problems	-.09			
Masculinity	.20***			
Neuroticism	-.09			
Self Esteem	-.26***			
Sense of Coherence	-.17*			
Extraversion	.24***		.12	.11
Ongoing Problems X[8]				
Masculinity		-.28	.12	.11
Neuroticism		-.01	.12	.10
Self Esteem		.15	.12	.10
Sense of Coherence		-.24	.12	.11
Extraversion		.08	.12	.10

* $p<$ .05 ** $p<$ .010 *** $p<$ .001

[8]The interaction terms depicted in this table represent separate models based on the equation:

$$H_i = b_0 + b_1 S + b_2 [paq] + b_3 [neu] + b_4 [rse] + b_5 [soc] + b_6 [ext] + b_7 S_x [pers] + e$$

where $S_x [pers]$ represents the interaction term indicated.

PLEASE REMOVE THIS PAGE*

What We are doing

We are trying to better understand the relationship between certain life events and people's feelings, attitudes, and beliefs. Your responses on the following survey will help me toward that end.

This is anonymous

ALL of your responses are completely anonymous. We will NOT ask you for your name, and answers to these questions will never be associated with you in any way. Please be as honest as you can. DO NOT PUT YOUR NAME OR OTHER IDENTIFYING MARKS ANYWHERE ON THE SURVEY.

Participation is completely optional. IT IS BEST IF YOU ANSWER EVERY QUESTION, but you may omit any question or discontinue at any time.

About the survey questions

This survey has several pages of statements that may or may not apply to you. Please respond according to the instructions. Some questions are repeated or are stated slightly differently throughout the survey, so please answer them all. If you are unsure about the meaning of a statement or are unsure of your feelings about it, *go with your first response.*

When you are finished

Please drop off your completed survey at the front of the room.

More information about the study

This study asks you to consider your attitudes and feelings on a wide range of topics. If doing so has caused you any discomfort or makes you feel like you want to speak to someone privately and confidentially about your feelings, you may contact the UNH Counseling Center at 862-2090.

If you have questions about the study you may contact Daniel Cervi at 862-4223 or Prof. Heather Turner at 862-1859.

THANK YOU FOR HELPING US WITH THIS STUDY

* **Keep this page for future reference if you have questions about this study.**

A. Your SEX: ___ (0) Male ___ (1) Female

B. Your GRADE:

___ (0) Still in high school
___ (1) First year in college
___ (2) Sophomore in college
___ (3) Junior in college
___ (4) Senior in college
___ (5) Graduate student in college
___ (6) Other

C. Your BIRTH DATE (Please— MO. and YR. ONLY)

Month born: _____ Year born: _____

Starting with item #1, please respond to every statement.

Please indicate your personal feelings for each of the statements below based on the following scale:

1. Strongly disagree
2. Disagree somewhat
3. Slightly disagree
4. Slightly agree
5. Agree somewhat
6. Strongly agree

PLEASE CIRCLE YOUR RESPONSE

DISAGREE ← → AGREE

RWA1. Laws have to be strictly enforced if we are going to preserve our way of life 1 2 3 4 5 6
RWA2. Capital punishment should be completely abolished 1 2 3 4 5 6
RWA3. National anthems, flags, and glorification of one's country should all be de-emphasized to promote the brotherhood of all people 1 2 3 4 5 6
RWA4. A lot of our society's rules regarding modesty and sexual behavior are just customs which are not necessarily any better or holier than those which other peoples follow 1 2 3 4 5 6
RWA5. Our prisons are a shocking disgrace. Criminals are unfortunate people who deserve much better care, instead of so much punishment 1 2 3 4 5 6
RWA6. Obedience and respect for authority are the most important virtues children should learn 1 2 3 4 5 6
RWA7. Organizations like the army and the priesthood have a pretty unhealthy effect upon men because they require strict obedience of commands from supervisors 1 2 3 4 5 6
RWA8. One good way to teach certain people right from wrong is to give them a good stiff punishment when they get out of line 1 2 3 4 5 6
RWA9. In these troubled times laws have to be enforced without mercy, especially when dealing with the agitators and revolutionaries who are stirring things up 1 2 3 4 5 6
RWA10. Homosexuals are just as good and virtuous as anybody else, and there is nothing wrong with being one 1 2 3 4 5 6

DISAGREE ← → AGREE

Please CIRCLE how often you did the following things

IN THE LAST YEAR

1 = Once
2 = Twice
3 = Three times
4 = Four times
5 = Five or more times
NO = NOT in the LAST YEAR →

			If 'NO' in last year, then have you EVER done it?	
			↓	↓
pc-11.	Stole something worth less than $20	1 2 3 4 5 NO	Yes	No
pc-12.	Stole something worth between $20 & $300	1 2 3 4 5 NO	Yes	No
pc-13.	Stole something worth over $300	1 2 3 4 5 NO	Yes	No
pc-14.	Set fire to a building, car, or other property	1 2 3 4 5 NO	Yes	No
pc-15.	Vandalized or destroyed someone else's property	1 2 3 4 5 NO	Yes	No
pc-16.	Took someone's car or motorcycle without permission	1 2 3 4 5 NO	Yes	No
pc-17.	Got drunk	1 2 3 4 5 NO	Yes	No
pc-18.	Smoked pot or hash	1 2 3 4 5 NO	Yes	No
pc-19.	Smoked cigarettes	1 2 3 4 5 NO	Yes	No
pc-20.	Used cocaine (crack, rock, freebase)	1 2 3 4 5 NO	Yes	No
pc-21.	Used amphetamines (diet pills, speed)	1 2 3 4 5 NO	Yes	No
pc-22.	Used sedatives (downers, hudes)	1 2 3 4 5 NO	Yes	No
pc-23.	Used hallucinogens (LSD, mushrooms, PCP)	1 2 3 4 5 NO	Yes	No
pc-24.	Used opiates (heroin, smack, morphine)	1 2 3 4 5 NO	Yes	No
pc-25.	Used steroids	1 2 3 4 5 NO	Yes	No
pc-26.	Took other illegal drugs	1 2 3 4 5 NO	Yes	No
pc-27.	Made obscene phone calls	1 2 3 4 5 NO	Yes	No
pc-28.	Forged a check or used a credit card without permission	1 2 3 4 5 NO	Yes	No
pc-29.	Drove a car while drunk	1 2 3 4 5 NO	Yes	No
pc-30.	Forced someone into sex against their will	1 2 3 4 5 NO	Yes	No
pc-31.	Hit someone else with an object or fist	1 2 3 4 5 NO	Yes	No
pc-32.	Entered a closed building or house to steal or damage something	1 2 3 4 5 NO	Yes	No
pc-33.	Tried to buy or sell things that were stolen	1 2 3 4 5 NO	Yes	No
pc-34.	Started or tried to pick a physical fight	1 2 3 4 5 NO	Yes	No
pc-35.	Got a traffic ticket (moving violation)	1 2 3 4 5 NO	Yes	No
pc-36.	Skipped class without an excuse	1 2 3 4 5 NO	Yes	No
pc-37.	Sold marijuana	1 2 3 4 5 NO	Yes	No
pc-38.	Cheated on a test or homework assignment at school	1 2 3 4 5 NO	Yes	No
pc-39.	Sold hard drugs such as ones mentioned above	1 2 3 4 5 NO	Yes	No
pc-40.	Was arrested for a crime I committed	1 2 3 4 5 NO	Yes	No
pc-41.	Spent time in a jail or locked detention facility	1 2 3 4 5 NO	Yes	No

In everyone's life different events occur that may put tension or stress into it. Below is a list of events regarding things that may have happened to you.

Please CIRCLE if the following things happened

IN THE LAST YEAR

NOT in the last year ⟶

YES, in the last year ⟶

42.	Had a major conflict with a teacher	YES	NO
43.	Got kicked off a team or out of a club	YES	NO
44.	Got caught stealing something	YES	NO
45.	Got arrested for doing something illegal	YES	NO
46.	Someone in my immediate family died	YES	NO
47.	Someone in my immediate family had a serious accident or illness	YES	NO
48.	Someone else close to me died	YES	NO
49.	Someone else close to me had a serious accident or illness	YES	NO
50.	Parents divorced or separated	YES	NO
51.	Had to quit doing a job, sport or after school activity because of a health condition	YES	NO
52.	Became embarrassed because of something that someone in my family did in front of friends or classmates	YES	NO
53.	Broke up with a girlfriend/boyfriend	YES	NO
54.	Had to move to a different city or state when I didn't want to	YES	NO
55.	Got suspended from school or put on probation	YES	NO
56.	Got into a severe accident	YES	NO
57.	Something valuable of mine was lost, destroyed, or stolen	YES	NO
58.	I was physically assaulted by someone	YES	NO
59.	I (or my girlfriend) got pregnant	YES	NO
60.	Pressured by friends or parents into doing something I really didn't want to do	YES	NO
61.	Got drunk and regretted it	YES	NO
62.	Had serious trouble with a roommate	YES	NO
63.	Failed a class	YES	NO
64.	Was fired or laid off unexpectedly from a job	YES	NO
65.	Didn't get into a wanted activity	YES	NO
66.	Lost my driver's license or driving privilege	YES	NO

Below are some sentences that say something about how people sometimes feel. Please read each sentence and circle the number that best indicates how often you have felt this way in the

PAST 7 DAYS

Have you felt this way:

0 = Rarely or none of the time (less than one day)
1 = Some or a little of the time (1 to 2 days)
2 = Occasionally or a moderate amount of time (3 to 4 days)
3 = Most or all of the time (5 to 7 days)

PLEASE CIRCLE YOUR RESPONSE

During the past seven days:

CES67.	I did not feel like eating; my appetite was poor	0 1 2 3
CES68.	I felt that I was just as good as other people	0 1 2 3
CES69.	I felt hopeful about the future	0 1 2 3
CES70.	I thought my life had been a failure	0 1 2 3
CES71.	I felt fearful	0 1 2 3
CES72.	My sleep was restless	0 1 2 3
CES73.	I felt lonely	0 1 2 3
CES74.	I enjoyed life	0 1 2 3
CES75.	I had crying spells	0 1 2 3
CES76.	I could not get "going"	0 1 2 3
STAI77.	I felt calm	0 1 2 3
STAI78.	I felt secure	0 1 2 3
STAI79.	I was regretful	0 1 2 3
STAI80.	I worried over possible misfortunes	0 1 2 3
STAI81.	I felt anxious	0 1 2 3
STAI82.	I felt self-confident	0 1 2 3
STAI83.	I was jittery	0 1 2 3
STAI84.	I felt "high strung"	0 1 2 3
STAI85.	I was relaxed	0 1 2 3
STAI86.	I felt over-excited and "rattled"	0 1 2 3
STAI87.	I felt joyful	0 1 2 3
STAI88.	I felt pleasant	0 1 2 3

Please indicate your personal feelings for each of the statements below based on the following scale:

1. Strongly disagree
2. Disagree somewhat
3. Slightly disagree
4. Slightly agree
5. Agree somewhat
6. Strongly agree

PLEASE CIRCLE YOUR RESPONSE

		DISAGREE ←					→ AGREE
RSE89.	I feel I have a number of good qualities	1	2	3	4	5	6
RSE90.	I feel that I am a person of worth, at least on an equal basis with others	1	2	3	4	5	6
RSE91	All in all, I am inclined to feel that I am a failure	1	2	3	4	5	6
RSE92.	I am able to do things as well as most other people	1	2	3	4	5	6
RSE93	I feel I do not have much to be proud of	1	2	3	4	5	6
RSE94.	I take a positive attitude toward myself	1	2	3	4	5	6
RSE95.	On the whole, I am satisfied with myself	1	2	3	4	5	6
RSE96.	I wish I could have more respect for myself	1	2	3	4	5	6
RSE97.	I certainly feel useless at times	1	2	3	4	5	6
RSE98.	At times I think I am no good at all	1	2	3	4	5	6
		DISAGREE ←					→ AGREE

The following list of characteristics are asked a little differently. Each item describes contradictory characteristics– that is, you cannot be both at the same time, such as *not at all independent* and *very independent*.

Choose the number which describes where *you* fall on the scale:

PLEASE CIRCLE YOUR RESPONSE

PAQ99.	Not at all independent	1	2	3	4	5	6	Very independent
PAQ100.	Very competitive	1	2	3	4	5	6	Not at all competitive
PAQ101.	Can make decisions easily	1	2	3	4	5	6	Have difficulty making decisions
PAQ102.	Give up easily	1	2	3	4	5	6	Never give up easily
PAQ103.	Never cry	1	2	3	4	5	6	Cry very easily
PAQ104.	Feel very superior	1	2	3	4	5	6	Feel very inferior
PAQ105.	Not at all understanding of others	1	2	3	4	5	6	Very understanding of others

Please indicate your personal feelings for each of the items below based on the following scale:

1. Never have that feeling
2. Almost never have that feeling
3. Sometimes have that feeling
4. Often have that feeling
5. Almost always have that feeling
6. Always have that feeling

PLEASE CIRCLE YOUR RESPONSE

NEVER ⬅ ➡ ALWAYS

106. I have little control over things that happen to me 1 2 3 4 5 6
107. There is really no way I can solve some of the problems I have 1 2 3 4 5 6
108. There is little I can do to change many of the important things in my life 1 2 3 4 5 6
109. I often feel helpless in dealing with the problems of life 1 2 3 4 5 6
110. Sometimes I feel that I'm being pushed around in life 1 2 3 4 5 6
111. What happens to me in the future mostly depends on me 1 2 3 4 5 6
112. I can do just about anything I set my mind to 1 2 3 4 5 6
113. It's hard to sleep nights when you think about recurrent crises in the world and what would happen if they exploded 1 2 3 4 5 6
114. The tensions in the world today make me wonder whether I will be around in a few years or not 1 2 3 4 5 6

NEVER ⬅ ➡ ALWAYS

115. The international situation is so complex that it just confuses a person to think about it 1 2 3 4 5 6
116. The only thing a person can be sure of today is that he (or she) can be sure of nothing 1 2 3 4 5 6
117. Current political events have taken an unpredictable and destructive course 1 2 3 4 5 6
118. In spite of what some people say, the lot of the average person is getting worse, not better 1 2 3 4 5 6
119. Most people live lives of quiet desperation 1 2 3 4 5 6
120. With so many religions around, one really doesn't know which one to believe 1 2 3 4 5 6
121. One should live for today and let tomorrow take care of itself 1 2 3 4 5 6

NEVER ⬅ ➡ ALWAYS

Please indicate your personal feelings for each of the items below based on the following scale:

1. Never have that feeling
2. Almost never have that feeling
3. Sometimes have that feeling
4. Often have that feeling
5. Almost always have that feeling
6. Always have that feeling

PLEASE CIRCLE YOUR RESPONSE

NEVER ← → ALWAYS

soc122. When I talk to people, I have the feeling that they don't understand me 1 2 3 4 5 6

soc123. In the past, when I've had to do something that depends upon cooperation with others, I had the feeling that it surely would get done 1 2 3 4 5 6

soc124. When I think of the people with whom I come into contact daily, aside from the ones to whom I feel closest, I feel that most of the rest are strangers 1 2 3 4 5 6

soc125. I have the feeling that I really don't care what goes on around me 1 2 3 4 5 6

soc126. People I have counted on have disappointed me 1 2 3 4 5 6

soc127. My life in the future will probably be completely consistent and clear 1 2 3 4 5 6

soc128. When something unpleasant has happened in the past my tendency was to say "ok, that's that, I have to live with it," and go on 1 2 3 4 5 6

soc129. When I do something that gives me a good feeling it's certain that something will happen to spoil that feeling 1 2 3 4 5 6

soc130. When I think of the difficulties I am likely to face in important aspects of my life, I have the feeling that I will always succeed in overcoming the difficulties 1 2 3 4 5 6

soc131. I have feelings that I'm not sure I can keep under control 1 2 3 4 5 6

NEVER ← → ALWAYS

Below is a list of situations that sometimes come up in people's lives.

Please CIRCLE if the following things are: **Not True,**
Somewhat True,
or **Very True** for you
at the present time.

		2 = Very True 1 = Somewhat True NO = Not True		
or 132.	I've been trying to take on too many things at once	NO	1	2
or 133.	There is too much pressure on me to be like other people	NO	1	2
or 134.	Too much is expected of me by others	NO	1	2
or 135.	I don't have enough money to buy things I need	NO	1	2
or 136.	My student loans or other debts are becoming too large	NO	1	2
or 137.	I don't have enough money to go home when I want	NO	1	2
or 138.	My course load is heavier than most students	NO	1	2
or 139.	I'm doing so much I feel both mentally and physically tired	NO	1	2
or 140.	I work harder than most people do	NO	1	2
or 141.	I want to achieve more, but things get in my way	NO	1	2
or 142.	I'm not in a relationship, but wish I was	NO	1	2
or 143.	I'm in a relationship that has a lot of problems	NO	1	2
or 144.	It's difficult to find someone who is compatible with me	NO	1	2
or 145.	I wonder if I'll ever get married	NO	1	2
or 146.	I'm alone too much	NO	1	2
or 147.	I have friends who are a bad influence on me	NO	1	2
or 148.	I don't have as many friends as I'd like	NO	1	2
or 149.	I don't have enough time for things I'd really like to do	NO	1	2
or 150.	I live with a person or people who cause problems for me	NO	1	2
or 151.	It's too noisy for me where I live	NO	1	2
or 152.	I have a health problem that limits the things I like to do	NO	1	2

Please indicate your personal feelings for each of the items below based on the following scale:

1. Never have that feeling
2. Almost never have that feeling
3. Sometimes have that feeling
4. Often have that feeling
5. Almost always have that feeling
6. Always have that feeling

PLEASE CIRCLE YOUR RESPONSE

	NEVER ←					→ ALWAYS
153. I would call myself a nervous person	1	2	3	4	5	6
154. I am a worrier	1	2	3	4	5	6
155. I am an irritable person	1	2	3	4	5	6
156. In general, my feelings are easily hurt	1	2	3	4	5	6
157. My mood often goes up and down	1	2	3	4	5	6
158. I feel "just miserable" for no reason	1	2	3	4	5	6
159. I am troubled by feelings of guilt	1	2	3	4	5	6
160. I feel fed up	1	2	3	4	5	6
161. I would call myself tense or "high-strung"	1	2	3	4	5	6
162. I worry too long after an embarrassing experience	1	2	3	4	5	6
163. I often feel lonely	1	2	3	4	5	6

	NEVER ←					→ ALWAYS
164. Generally, I prefer reading to meeting people	1	2	3	4	5	6
165. I can usually let myself go and enjoy myself at a fun party	1	2	3	4	5	6
166. Other people think of me as very lively	1	2	3	4	5	6
167. I am mostly quiet when I am with other people	1	2	3	4	5	6
168. If there is something I want to know about, I would rather look it up in a book than talk to someone about it	1	2	3	4	5	6
169. I hate being with a crowd who plays jokes on one another	1	2	3	4	5	6
170. I like talking to people so much I never miss a chance of talking to a stranger	1	2	3	4	5	6
171. I would be unhappy if I could not see lots of people most of the time	1	2	3	4	5	6
172. I find it hard to really enjoy myself at a lively party	1	2	3	4	5	6
173. I can easily get some life into a rather dull party	1	2	3	4	5	6

NEVER ←					→ ALWAYS

Please indicate *how often* in the **LAST YEAR** you experienced the following due to your **DRINKING** or **DRUG USE:**

1= Once 2= Twice 3= Three times 4= Four times 5= Five or more times

	6= NOT IN THE LAST YEAR ↓	
ac174. Had a hangover	1 2 3 4 5	NO
ac175. Performed poorly on a test or important project	1 2 3 4 5	NO
ac176. Been in trouble with police, residence hall, or other college authorities	1 2 3 4 5	NO
ac177. Damaged property, pulled fire alarm, etc.	1 2 3 4 5	NO
ac178. Got into an argument or fight	1 2 3 4 5	NO
ac179. Got nauseated or vomited	1 2 3 4 5	NO
ac180. Been loud or rowdy in public where someone complained and got you in trouble	1 2 3 4 5	NO
ac181. Missed a class	1 2 3 4 5	NO
ac182. Been criticized by someone I know	1 2 3 4 5	NO
ac183. Thought I might have a drinking or other drug problem	1 2 3 4 5	NO
ac184. Had a memory loss	1 2 3 4 5	NO
ac185. Done something I later regretted	1 2 3 4 5	NO
ac186. Been arrested for driving intoxicated (DWI/DUI)	1 2 3 4 5	NO
ac187. Have been taken advantage of sexually	1 2 3 4 5	NO
ac188. Tried unsuccessfully to stop using	1 2 3 4 5	NO
ac189. Seriously thought about suicide	1 2 3 4 5	NO
ac190. Seriously tried to commit suicide	1 2 3 4 5	NO
ac191. Been hurt or injured (while drinking or on drugs)	1 2 3 4 5	NO
ac192. Drank a large amount explicitly to get drunk	1 2 3 4 5	NO

ac193. Think back over the last two weeks. How many times have you had five or more drinks at a sitting? (a drink is a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor, or a mixed drink)

___ ac01None ___ ac02Twice ___ ac06 to 9 times

___ ac00Once ___ ac03 to 5 times ___ ac10 or more times

ac194. What is the average number of drinks you consume a week? _____.
(Average #)

Please **CIRCLE, CHECK,** or **FILL IN** your response:

10. Are your parents currently:

_____ married to each other
_____ never married to each other
_____ separated
_____ divorced
_____ one or both parents have died

11. Which parent do you/did you last live with? -
("another adult" could be a step-parent or a parent's girlfriend/boyfriend)

_____ mother and father
_____ father only
_____ mother only
_____ father and another adult
_____ mother and another adult
_____ neither my mother or father

12. What is your father's highest level of education?

_____ less than high school
_____ high school graduate
_____ some college
_____ two year college graduate (for example, community college)
_____ four-year college graduate
_____ some graduate school
_____ graduate degree

13. About how much income do you estimate your father made last year?

_____ $ 0 - 10,000
_____ $ 10,001 - 20,000
_____ $ 20,001 - 30,000
_____ $ 30,001 - 40,000
_____ $ 40,001 - 50,000
_____ $ 50,001 - 60,000
_____ $ 60,001 - 70,000
_____ $ 70,001 - 80,000
_____ $ 80,001 - 90,000
_____ $ 90,001 +
_____ my father is deceased

14. What is/was your father's normal occupation? _____

15. Has your father ever been fired from a job?

_____ No _____ Yes → if Yes, how many years ago since the last time it happened?

_____ years

16. Has your father ever been dismissed (but not fired) from a job unexpectedly and involuntarily?

_____ No _____ Yes → if Yes, how many years ago since the last time it happened?

_____ years

17. What is your mother's highest level of education?

_____ less than high school
_____ high school graduate
_____ some college
_____ two year college graduate (for example, community college)
_____ four-year college graduate
_____ some graduate school
_____ graduate degree

18. About how much income do you estimate your mother made last year?

_____ $ 0 - 10,000
_____ $ 10,001 - 20,000
_____ $ 20,001 - 30,000
_____ $ 30,001 - 40,000
_____ $ 40,001 - 50,000
_____ $ 50,001 - 60,000
_____ $ 60,001 - 70,000
_____ $ 70,001 - 80,000
_____ $ 80,001 - 90,000
_____ $ 90,001 +
_____ my mother is deceased

19. What is/was your mother's normal occupation?_____

20. Has your mother ever been fired from a job?

_____ No _____ Yes

if Yes, how many years ago since the last time it happened?

_____years

21. Has your mother ever been dismissed (but not fired) from a job unexpectedly and involuntarily?

_____ No _____ Yes

if Yes, how many years ago since the last time it happened?

_____years

22. Which best describes you?

___ White ___ Black ___ Native American

___ Hispanic ___ Asian or Pacific Islander

Other_____

23. What is your marital status?

___ Single, never married ___ Married ___ Married, but separated

___ Single, but cohabiting with another person ___ Divorced ___ Widowed

No faculty were hurt or killed in the execution of this research.