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Humour and social support as moderators of life event stress in students

Billie Y. Orr

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HUMOUR AND SOCIAL SUPPORT AS MODERATORS OF LIFE EVENT STRESS IN STUDENTS

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

by
Billie Y. Orr
June 1985

Approved by:
ABSTRACT

Research over the past three decades has linked stressful life events to various psychological and/or physiological illnesses. Recent attention has been directed toward discovering what environmental and personal characteristics might serve to moderate the negative impact of stressful life events. Social support has been found to serve such a stress-buffering role. Sense of humour has also been hypothesized to afford individuals a coping mechanism with which to deal adaptively with life stress. These two variables were examined from a cognitive, perceptual frame of reference to assess whether they are associated with depressive symptomatology and whether they would function as moderators of life stress as reflected in self-reported depression. The sample consisted of 150 college students from two Southern California campuses. Variable correlations with depression indicated that life stress, perceived social support from family and friends, sense of humour and use of humour as a coping mechanism were all significantly associated with depressive symptomatology, and act as reliable predictors of self-reported depression. Hierarchical multiple regression results indicated that perceived social support from family members served as a
moderator of stress, but that perceived support from
friends and sense of humour did not function in the same
role. However, the interaction of perceived social support
from family and two measures of humour suggested that
together these variables moderate the deleterious effects
of negative-life-event stress. Factors of age, gender,
ethnicity and student's year of study also emerged as
significant variables in the stress-depression relationship
although further studies will be required as present
findings are based on small sample sizes in certain of
these analyses. Possible future research and implications
of this study are discussed.
# TABLE OF CONTENTS

**ABSTRACT** ................................................................. iii

**TABLE OF CONTENTS** .................................................. v

**LIST OF TABLES** ......................................................... vii

**ACKNOWLEDGEMENTS** .................................................. viii

**INTRODUCTION** ........................................................ 1

  - Cognitive Mediation in Human Stress
    - Responses ........................................................... 4
  - Humour as a Buffer Against Life Stress .......................... 6
  - Social Support as a Buffer Against Life Stress ................. 11
  - Present Research and Hypotheses ................................ 14

**METHOD** ........................................................................ 17

  - Participants ........................................................... 17
  - Procedure ............................................................. 19
  - Measures ............................................................... 20

**RESULTS** ....................................................................... 24

  - Hypothesis I ............................................................ 24
  - Hypothesis II ........................................................... 26
  - Hypothesis III .......................................................... 26
  - Hypothesis IV ........................................................... 27
  - Hypothesis V ............................................................ 28
  - Additional Findings .................................................. 46

**DISCUSSION** .................................................................. 55

  - Hypothesis I ............................................................ 55
  - Hypothesis II ........................................................... 57
  - Hypothesis III .......................................................... 58
  - Hypothesis IV ........................................................... 60
  - Hypothesis V ............................................................ 62
  - Additional Findings .................................................. 66
  - Direction for Future Research ........................................ 71

**APPENDICES** ................................................................ 74

  A. College Students Life Event Schedule .......................... 74
  B. Sense of Humour Questionnaire ................................. 79
  C. Coping Humour Scale .............................................. 82
  D. Perceived Social Support Scales ................................. 83
  E. Beck Depression Inventory ......................................... 88
  F. Participant Letter .................................................... 92
LIST OF TABLES

TABLE 1: Sample Demographic Characteristics .................. 18

TABLE 2: Intercorrelations of Depression and Eight Predictor Variables for Total Sample ...................... 25

TABLE 3: Hierarchical Multiple Regression Summary ................ 30

TABLE 4: Hierarchical Multiple Regression Summary ................ 32

TABLE 5: Hierarchical Multiple Regression Summary ................ 34

TABLE 6: Stress x Perceived Support by Family Interaction Means ...................... 35

TABLE 7: Hierarchical Multiple Regression Summary ................ 37

TABLE 8: Stress x Family Support x Humour Interaction Means ...................... 38

TABLE 9: Stress x Family Support x Emotional Expressiveness Humour ...................... 41

TABLE 10: Hierarchical Multiple Regression Summary ................ 43

TABLE 11: Stress x Family Support x Personal Liking Humour ...................... 44

TABLE 12: Stress x Gender and Stress x Ethnicity Interaction Means ...................... 48

TABLE 13: Stress x Ethnicity Interaction Means ...................... 49

TABLE 14: Stress x Class Interaction Means ...................... 52

TABLE 15: Stress x Age x Gender Interaction Means ...................... 53
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Special recognition must go the faculty and administrative department at the University of California, Riverside, for making your campus available to me. Also, thank you to the employees at UCR Counseling Center for your encouragement and support.

Thanks also to the faculty and staff at CSUSB for your support and smiles at times when it was so important, and to the students at both campuses for volunteering your time.

Finally, thanks to my dear friends for listening, caring and giving me a reason to laugh when things just didn't seem funny any more. And a very special thank you to my beloved partner, Sherry MacInnis, whose love, encouragement and endless optimism enabled me to find the desire and determination to strive to meet this end.

viii
To My parents

and sisters, Lavaine and Hope.

Thank you for

your love and laughter

and for

your liberating force on me.
INTRODUCTION

Considerable research over the past three decades has documented a positive and significant relationship between stressful life events and psychological and/or physical illness (Dohrenwend & Dohrenwend, 1974). However, the inconsistency between numbers of events experienced and subsequent disturbance suggests individual differences that as yet are not fully understood. Some individuals who experience many life events do not become symptomatic whereas others who experience few events become highly distressed (Hinkle, 1974). In attempts to specify the variables responsible for moderating the negative effects of stress, researchers have recognized two broad categories: (a) characteristics of individual's social environment (i.e., social supports) and (b) dispositional characteristics (i.e., traits, coping styles) (Dohrenwend, 1978; Johnson & Sarason, 1979).

The social-support-stress-buffering hypothesis states that persons experiencing significant life stress, but with strong social support, will be protected from developing symptomatology associated with stress (Heller & Swindle, 1982). Although there is much evidence to support this concept (Dean & Ensel, 1983; Holahan & Moos, 1981; Miller &
Lefcourt, 1983; Procidano & Heller, 1983; Sarason, 1981) it has also been noted in recent critical articles that serious conceptual and methodological problems frequently mar these results. Three basic such difficulties include; confounding of the measure of support with measures of other personal characteristics, confounding of independent and dependent measures, and ill-defined and vague notions of the social support construct (Dean, Lin & Ensel, 1981; Heller & Swindle, 1982; Thoits, 1982). The present study has taken care to employ measures of social support that reflect perceived support and avoid confusing such a measure with support-seeking and network characteristics.

It is noteworthy that considerably fewer studies have focused on personality variables as mediators of the stressful effects of life change events. Locus of control has been found to support the stress-buffering hypothesis (Johnson & Sarason, 1978) but does not shed light on individual differences in coping processes based on external versus internal locus of control. Differences in coping processes (e.g., reported perception of control over events) cannot be assumed on the basis of differences in locus of control (Sandler & Lakey, 1982). Other constitutional variables found to moderate stress include sensation seeking (Smith, Johnson & Sarason, 1978), the absence of Type A behavior patterns (Friedman & Roseman, 1974) and a constellation of three personality dimensions (commitment, control and challenge) labelled "hardiness" (Kobasa &
Interestingly, one variable largely ignored as a stress moderator is sense of humour. Although the complex nature of the sense of humour has intrigued humanistic scientists for many years (see Goldstein & McGhee, 1972 for review), empirical inquiry into its function in emotional adjustment and mental health has been given little attention.

Merriam-Webster Dictionary (1974) defines humour as "a keen perception of the ludicrous or incongruous" (p. 344). Although this definition says nothing about the broader issue of humour and level of emotional adjustment, it does suggest that a sense of humour is related to our perceptions. Such a concept was proposed by Freud (1959) when he referred to humour as a healthy defense mechanism signifying "the triumph not only of the ego, but also of the pleasure principle which is strong enough to assert itself here in the face of adverse real circumstances" (p. 217). Hence, to adopt a humorous attitude is to take a particular perspective of reality. In avoiding the 'pain' of reality and pursuing the 'pleasure' of humour by means of a certain cognitive flexibility, an ability which has long been a hallmark of mental health, the individual copes with her/his stress in an adaptive fashion.

The remainder of this chapter will review findings on the role of cognitions in moderating a stress response, and the buffering effects of both humour and social support.
Cognitive Mediation in Human Stress Responses

The important role of cognitive factors in the production of stress reactions was concisely stated by the Stoic philosopher Epictetus who wrote: "Men are disturbed not by things, but by the view which they take of them" (quoted by Martin & Lefcourt, 1983, p. 1313). Contemporary theories that attempt to account for the causes of human stress reactions have emphasized the critical roles of perception (Beck, Rush, Shaw & Emery, 1979; Cameron & Meichenbaum, 1982), appraisal (Holroyd & Lazarus, 1982), and cognitive attitudes or beliefs (Ellis, 1977) in how people respond to and cope with stressful life events.

Psychotherapists have long been aware of the important role ones' perspective plays in dividing the neurotic from the not-so-neurotic. Greenwald writes, "many of the differences between the unhappy, neurotic persons and the happy ones is how they choose to deal with their problems" (1977, p. 161). Choice suggests a decision-making process, a cognitive capacity that is demonstrated in attitudes and perspectives.

A growing group of cognitive-behavioral therapists accept the premise that emotions are products of cognitive activity, or are at least mediated by cognitions, and conduct their therapeutic interventions accordingly. The cognitive aspects of personality in the production of stress reactions have been highlighted by scientist practitioners such as Ellis (1977) who writes, "emotional
disturbance consists largely of taking life too seriously and exaggerating the significance of things" (p. 2).

Lazarus (1981) has elaborated a stress and coping paradigm that identifies emotions as "outcomes of or reactions to cognitively mediated transactions with the environment, actual, imagined, or anticipated" (p. 192). He employs the term cognitive appraisal to express this notion. According to this model, an individual's primary appraisal and reappraisal determine "the intensity and quality of the emotional response to any transaction" (p. 193). A positive appraisal results in subjectively experienced positive emotions and a stressful appraisal produces negatively toned emotions. Based on this theory, taking a humorous perspective of some situation by recognizing the absurdities or incongruencies of adverse real circumstances would produce pleasant emotions and mitigate negative emotions such as depression.

If stress is moderated, in part, by one's appraisal of a given situation, and if humour can be viewed as a type of cognitive appraisal, then it is reasonable to regard humour as a likely factor in coping with life stress. It is suggested here in fact that the adoption of a humorous attitude toward life functions as a buffer against stressful life events. The following review discusses research and theory relevant to this hypothesis.
Humour as a Buffer Against Life Stress

Research in support of the widely held intuitive notion that utilizing one's sense of humour is an adaptive way of dealing with stress is at present very limited. The present writer has been able to locate only one study conducted by Martin and Lefcourt (1983) that directly focuses on humour as a stress moderator. Until recently the psychological study of humour has focused on personality correlates (Janus, 1975; Landis & Ross, 1933), passive appreciation of specific types of humour (Boyer, 1982) and the development of humour tests (Babad, 1974; Ziv, 1979). There is both theoretical and empirical literature, however, that provides at least indirect support for humour as an adaptive way of dealing with stress.

A recently proposed theory of humour (Dixon, 1980) emphasizes the cognitive function served by the adoption of a humorous perspective as a "harmless alternative to the maladaptive consequences of physiological stress and is more appropriate than the latter to the sorts of stressors with which humans have to cope" (p. 287). Dixon regards humour as a mode of cognitive functioning that enables the individual to detect multiple meanings in any setting, underscoring the association between humour and cognitive flexibility. His view of humour is close to Lazarus' views on the role of cognitive appraisal in coping with stress. This theory also incorporates the physiological stress reactions that might be alleviated by adopting a humorous
attitude toward life's absurdities.

The biological effects of hardy laughter are purported by Cousins (1979) to have analgesic effects against physical pain. Medically diagnosed with a serious collagen illness, Cousins wrote of his experience treating himself with massive doses of vitamin C and laughter. "I made the joyous discovery that ten minutes of genuine belly laughter had an anesthetic effect and would give me at least two hours of pain-free sleep" (p. 39). He found that episodes of laughter decreased sedimentation rate readings (i.e., measures of inflammation) and that this effect was consistent and cumulative. He notes, "laughter is good medicine" (p. 40). While Cousins' account is provocative, it represents results from only one person, leaving unanswered the question of whether laughter therapy would have similar results with other seriously ill people.

Although no cause-effect relationship between use of humour and manifest anxiety can be claimed, Babad (1974) found that the anxiety scores of individuals who actively produce humour were significantly lower than those of the nonhumorous subjects and the passive appreciators. In a group of female undergraduates who were nominated by their peers as being active producers of humour, this study found a clear and significant negative correlation between humour and anxiety as measured by a modified Taylor Manifest Anxiety Scale.

Prasinos and Tittler (1981) hypothesized that humour-oriented people emerge from a pattern of distance in family
relationships. Using Moos' Family Environment Scale and Kuethes' figure-placement technique, the family experiences of 88 Boy Scouts were assessed. Through a peer nomination technique, nonhumour-oriented, middle, and humour-oriented groups were formed. The humour-oriented group exhibited lower cohesion scores and greater conflict scores on the Family Environment Scale and greater distance from father in the figure-placement. To explain their results, the authors proposed a family-distance model of humour orientation which views humour as an attempt to relate from a distance. Within Lazarus' theory, these humour-oriented youngsters employed a cognitive capacity to mediate the stress response that might be associated with distance within the family.

Drawing on data from case studies, clinical interviews, early memories, dreams, graphological analysis, and psychological testing (including the WAIS and the Machover Human Figure Drawing Test), Janus' (1975) study of 55 well known comedians found that these individuals used humour as a defense against inescapable panic and anxiety. Once again, then, it seems that these persons are employing humour as an adaptive coping mechanism.

A recent study by Goldsmith (1979) investigated the relationship between the capacity for adaptive regression, its manifestation in humour, and degree of suicide lethality in a group of 31 female psychiatric in-patients. Suicidality and humour were correlated with measures of ego strength and depression. Results confirm a significant negative
relationship between suicidality and both adaptive regression and ego strength, as well as a positive relationship between ego strength and humour. Goldsmith notes, "There appears to be a parallel that can be drawn between those features delineated as crucial dimensions in suicide (e.g., issues relating to regression rigidity, flexibility, the management of depression, the capacity to master stresses) and those features of the humour process" (p. 628). A significant inverse relationship was found between suicide lethality scores and the subject's degree of "adaptive regression in the service of the ego" (ARISE) (p. 629). The lethality and humour choice scores were found to be negatively correlated. Thus, suicide lethality was associated with jokes judged to be of morbid thematic content. Ego strength was positively associated with a greater appreciation of humour, and was negatively associated with suicide potentiality.

As previously stated, the notion that humour may play a stress-buffering role that might serve to protect persons from the deleterious impact of negative life change has not received much direct empirical investigation. However, in a well designed study, Martin and Lefcourt (1983) found support for the stress-buffering hypothesis relative to sense of humour, especially as it relates to stressors strongly linked to depression, anxiety and tension. In each of a series of three studies, a negative-life-events checklist was used to assess the level of stress in subject's
lives over the preceding 12 months (College Students Life Event Schedule, CSLES), and a current moods scale (Profile of Mood States, POMS) was used to determine the impact of that stress on subject's tension, depression, anger, fatigue, and confusion during the preceding month. Sense of humour was assessed in a number of different ways including four self-report scales (e.g., Sense of Humour Questionnaire, SHQ, and the Coping Humour Scale, CHS) and two behavioral assessments obtained by instructing subjects to produce humour under stressful and nonstressful conditions.

Using hierarchical multiple regression analysis and entering the negative-life-events score first, then the measure of humour, and then the interaction of these two variables to predict mood levels, the authors found a moderating effect of humour. In comparing the results for each humour scale, some indications were found for what particular aspects of humour contribute to its stress-buffering effect. A significant moderating effect was found using the Personal Liking of Humour subscale. Those who scored low on this scale, indicating a lower appreciation of humour, obtained a higher correlation between negative life events and Total Mood Disturbance than those who received higher scores on this measure. Also, a significant moderating effect was found in the Coping Humour Scale, with a higher correlation found between life events and Total Mood Disturbance for low scoring subjects than for high scoring subjects.
Bearing in mind the correlational nature of this analysis that prohibits the use of causal explanations, Martin and Lefcourt stated: "The significant results obtained with the Situational Response Questionnaire, the Personal Liking of Humour subscale, and the Coping Humour Scale indicate that the negative effects of stress are less pronounced for individuals who tend to laugh and smile, and who make use of humour as a means of coping with stress than for those to whom these descriptions do not apply" (p. 1319).

Overall, the Martin and Lefcourt results suggest that for humour to moderate the negative effects of stress, the individual must not only place a high value on humour but must also produce humour, especially in stressful situations she or he encounters in daily life.

Social Support as a Buffer Against Life Stress

The notion that social support may serve to moderate the negative effects of life stress has gained much attention in the psychological, psychiatric and sociological arenas over the past twenty years. Recently, empirical inquiries pertinent to this concern are much stronger both conceptually and methodologically, and lend support to the buffering role of social support variables in the stress-illness relationship (Heller & Swindle, 1982).

Holahan and Moos (1981) addressed the relationship between social support and psychological distress by means of a one year longitudinal analysis of a randomly selected community population, including 248 female and 245 male
adult family members. Social support was measured by means of the Family Relationship Index tapping dimensions of cohesion, expressiveness and conflict; the Work Relationship Index which taps peer cohesion, staff support and involvement dimensions of the workplace, and the Traditional Social Support Index. A Negative Life Change Events survey was used to ascertain the number of negative life-change events experienced over the previous 12-month period, and a depression and psychosomatic symptoms index (adapted from work by Langner, 1962) measured psychological distress. These measures were taken at two points in time one year apart (i.e., except for the TSSI which was only administered once) to control for initial maladjustment and initial levels of life change and social support. Analyzing their data by means of a multiple regression technique the authors reported a significant inverse relationship between depression and social support for females (based on the Family Relationship Index and the Work Relationship Index), and for males (based on the Work Relationship Index only). For these males the family relationship measure was not significantly related to their psychological distress symptomatology.

In a study primarily concerned with scale development and construct validation, Procidano and Heller (1983) examined the relationship between Perceived Social Support by Friends (PSS-Fr) and by Family (PSS-Fa), and measures of life events, networks, symptomatology, social competence and other related measures of individual traits of 222
college undergraduates. The authors found that the PSS-Fr and PSS-Fa scales were better predictors of symptomatology than life events or social network characteristics. In interpreting their results, the authors stated that "just as PSS-Fr is more closely related to a range of social assets than is PSS-Fa, at least for college students, it appears that lack of family-based social support is related to reported psychopathology" (p. 9).

Dean and Ensel's (1983) investigation examined the centrality of social support as it relates to depression in a representative sample of 1,091 adults (17-70 years of age) residing in New York state. Using a measure of stressful life events (118-item scale based on items drawn from existing scales); a measure of social support termed "strong-tie" support (a 2-item scale derived from a factor analysis of twelve items comprised of perceived problems in the fulfillment of expressive support functions over the past six months); a measure of individual or personality factors tapped by the Personal Competence Scale; a measure of physical disorders as indicated by a revised version of the Cornell Medical Index; and the Center for Epidemiologic Studies Depression Scale (a 20-item scale measuring the magnitude of depressive symptomatology), the authors examined variables of age, sex and demographic characteristics as they relate to the aforementioned measures. In examining their data, Dean and Ensel correlated all variables against each other and dropped those variables that were not related
and then applied a regression analysis to assess the magnitude of their independent contributions to depression for both sexes. Results of this study indicate that the predictors of depression in order of importance were: "for males - strong-tie support, personal competence, prior history of illness and marital status; for women - strong-tie support, stressful life events and personal competence" (p. 199). The authors conclude that young adults (ages 17-24) are at particularly high risk for depression, and that strong-tie support is the most important factor accounting for depressive symptomatology.

Although these studies provide strong support for the important role of social support as a moderator of negative life-event stress, especially as related to depressive symptomatology, the methods involved are correlational and do not allow causal statements to be made. Heller and Swindle (1982) speak to this important consideration regarding even the most tightly controlled investigations. Other recent articles in the literature on stress emphasize caution in the interpretation of the stress-buffering role of social support based on ill-defined concepts of social support and methodological errors (i.e., confounding of independent and dependent variables) that often render the results uninterpretable (see Gottlieb, 1983 for review; Thoits, 1982).

**Present Research and Hypotheses**

The purpose of the present study is to explore further the relationship between humour, social support and life
stress through use of a multivariate research design which will: (a) examine the question of whether humour functions as a moderator of life stress, (b) whether humour has any direct relationship with depressive symptomatology, and (c) how humour compares as a stress moderating variable and correlate of depressive symptomatology relative to social support. This study involves a partial replication of the Martin and Lefcourt (1983) study, thereby helping to answer the important question of whether their findings on the stress moderating effects of humour will be obtained using a different, and larger sample than they used and a more well established measure of depression. Social support has been selected as a comparison variable because it is the most heavily researched stress moderator variable with established effects as a buffer of life-events stress and also as a depression correlate in adults.

The primary design is a hierarchical multiple regression in which the Beck Depression Inventory (BDI) is the single dependent variable. A total of five independent variables will be used because of their relevance to depression. The independent variables are life-event stress, sense of humour, use of humour as a coping mechanism, perceived social support by friends, and perceived social support by family.

The primary hypotheses under study are as follows:

(1) There will be a significant correlation between life-events stress and depression, with higher stress associated with higher depression scores.
(2) There will be a significant relationship between social support and depression, with higher social support associated with lower depression scores.

(3) There will be a significant relationship between each of the humour measures and depression, with higher humour scores associated with lower depression scores.

(4) There will be a significant relationship between humour and social support, with higher humour associated with higher social support.

(5) Social support and humour will function as moderators of life stress.

This final hypothesis will be tested by determining whether the multiple regression analysis yields a significant interaction effect of social support X life events stress, and humour X life events stress. Significant interactions here reflect the function of social support and humour as moderator variables.

Although no gender differences are being hypothesized, analyses will be run separately for females and males if a sufficient sample size is obtained. While Martin and Lefcourt (1983) reported no such differences, gender differences have been reported by others (e.g., Billings & Moos, 1982), making such an inquiry appropriate.
METHOD

Participants

The total sample for this study consisted of 150 college students recruited from two Southern California campuses. Ninety students were from California State University, San Bernardino, and 60 students were from the University of California, Riverside. Recruitment was accomplished by posting "Stress Experiment" sign-up sheets on both campuses asking for volunteers to complete a questionnaire related to amount of stress experienced and methods of coping with such stress. All subject participation was voluntary although some students did receive class credit in some courses for their participation. Anonymity and confidentiality were respected and whether or not each participant decided to give their name was a matter of individual choice.

A personal information sheet was included in each individual questionnaire packet (see Appendix H) to assess a number of demographic factors. Sample demographic characteristics are summarized in Table 1. As can be seen, participants ranged in age but were generally young adults with a mean age of 24.8. Over three quarters of the sample were female, and of the total sample 70% referred to themselves as Caucasian. Year of study indicates that...
### TABLE 1

SAMPLE DEMOGRAPHIC CHARACTERISTICS

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n</th>
<th>% adj.*</th>
</tr>
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</tr>
<tr>
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<td>81</td>
<td>54.7</td>
</tr>
<tr>
<td>22 - 29</td>
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<tr>
<td>Male</td>
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<td>Senior</td>
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<td><strong>Area of Study</strong></td>
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<tr>
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<td>Dormitory</td>
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<td>With Parents</td>
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<td>With Spouse</td>
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<td>Other</td>
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</table>

* % adjusted to account for missing data
slightly fewer juniors (16.8%) were represented in this study than from other groups, and that approximately 7% of students were involved in course work following completion of an undergraduate degree. A majority of this sample declared a major in the social sciences (56.1%). The living situations of this sample indicate an approximately equal distribution of those living in the dorms (27.8%), at home with parents (21.6%), with spouse (25%), and off-campus alone or with roommate(s) (20.9%).

**Procedure**

Participants were advised on the sign-up sheets of dates, times, and on campus building and room numbers that the questionnaire would be distributed. There were no limits of response time applied but students were advised that completion of the form would take somewhere between 30 and 60 minutes. Participants were given verbal instructions as well as written instructions (see Appendix F) on how to complete the questionnaire. Although most forms were completed by groups of students, occasionally individual students responded in the classroom setting. A Consent Form (see Appendix G) was included in all questionnaire packets, however, in the case of UCR students the form was cut off following the statement, "The specific information that you provide about yourself will not appear in print or be discussed publicly", due to such recommendations by the UCR Human Subjects Review Committee. A Personal Information form (see Appendix H) was included to gather
demographic data. Participants were instructed to choose whether or not to list their name and/or address for the express purpose of possible follow-up research, and ample space was made available for each participant to comment on the questionnaire if they so chose.

Measures

Six measures were used in this study. The ordering of the measures was held constant for all participants as follows:

1. College Student Life Events Schedule (CSLES) (Sandler & Lakey, 1982). This 112-item scale (see Appendix A) was created specifically for college student populations and consists of a representative sample of stress events which occur in the population, and are also considered most relevant to students. Subjects check off the events that have occurred to them during the past year and rate the effect that each event had on their lives (i.e., very negative, slightly negative, slightly positive, or very positive). A weighted negative-life-events score is obtained for each student by adding only events that were rated as having either a slightly or very negative effect, 1 or 2 points respectively.

2. Sense-of-Humour Questionnaire (SHQ) (Svebak, 1974). This 21-item questionnaire (see Appendix B), provides scores on three dimensions of sense of humour. The first subscale, Meta - Message Sensitivity (Mp), reflects the degree to which participants report being able to notice humorous
stimuli in their environment. A typical item on this scale is "I can usually find something comical, witty or humorous in most situations." The second subscale, Personal Liking of Humour (Lp), assesses the degree to which subjects report valuing humour in their lives. A typical item on this subscale is "It is my impression that those who try to be funny really do it to hide their lack of self-confidence." (Disagreement with this item yields a higher score on the scale.) The third subscale, Emotional Expressiveness (Ep), measures the degree to which participants report expressing their emotion, including humour. A typical item is "I appreciate people who tolerate all kinds of emotional expression." All items are answered on a 4-point scale and the items related to each of the three subscales are presented in randomized order according to Svebak's revisions (1974). A score of 4 is obtained on the Mp items for answers expected to indicate great sensitivity to humorous messages, and on the Lp and Ep items for answers expected to indicate a very laughter-permissive style. These subscales are regarded separately in some of the following multiple regression analyses.

3. Coping Humour Scale (CHS) (Martin & Lefcourt, 1983). This seven-item scale (see Appendix C) was created specifically to assess participant's use of humour as a coping mechanism to deal with stressful life experiences. Items are answered on a 4-point scale with a score of 4 indicating the subject does use humour to cope with stress. A typical item from this scale is "I usually look for something comical to say
when I am in tense situations."

4. Perceived Social Support Inventory (PSS-Fr and PSS-Fa) (Procidano & Heller, 1983). These measures were designed to assess the extent to which an individual perceives that her/his needs for support, information, and feedback are fulfilled by friends (PSS-Fr) and by family (PSS-Fa) (see Appendix D). The distinction between friend support and family support is considered important, as is the notion of perception of such support. Different populations (e.g., different age cohorts) may rely on or benefit from friend or family support to different extents. At a given time there might be more change in an individual's friend network or family network. Examples of these items are "My friends are sensitive to my personal needs" (PSS-Fr) and "My family enjoys hearing about what I think." (PSS-Fa). For each item, the response indicative of perceived social support is scored +1 so that scores range from 0, indicating no perceived social support, to 20, indicating maximum perceived social support, as provided by friends or family. (The "Don't know" category is not scored).

5. Beck Depression Inventory (BDI) (Beck, Rush, Shaw & Emery, 1979). This 21-item scale measures subject's reported level of depression over the past week or ten days (see Appendix E). Each question is scored on a scale from 0-3 with scores of 3 indicating higher phenomenological experiences of a depressed state. This particular measure has widely accepted and well established reliability and
validity as a measure of depressive symptomatology and is considered an appropriate depression measure in college student samples. A typical item on this scale that reflects lack of depression is "I can sleep as well as usual" (score of 0). A typical item that reflects depressive symptoms is "I wake up several hours earlier than I used to and cannot get back to sleep) (score of 3).
RESULTS

Data were subjected to two types of correlational analysis: (1) Pearson product-moment correlations were obtained between all variables under study and (2) a Hierarchical multiple regression analysis was conducted. These latter analyses were completed to determine whether depression would be predicted better by use of a multiple rather than a single predictor, and also to determine whether support would be obtained for the operation of social support and humour as moderators of life-event stress.

Hypothesis I

The first hypothesis stated that there would be a significant correlation between negative-life-event stress and depression. This prediction was supported ($r = .348$, $p < .01$), as expected from previous research findings. To aid the reader in presentation and discussion of the various variable intercorrelations, summary Table 2 is presented now.

Table 2 presents the means and the intercorrelations of depression and eight predictor variables. As can be seen, negative-life-event stress is significantly correlated with both the Sense of Humour Mp subscale ($r = -.180$, $p < .05$)
### TABLE 2

**INTERCORRELATIONS OF DEPRESSION AND EIGHT PREDICTOR VARIABLES FOR TOTAL SAMPLE**

* N = 150

<table>
<thead>
<tr>
<th>Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Depression (BDI)</td>
<td>7.99</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Life Stress (CSLES)</td>
<td>.348**</td>
<td>17.45</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Sense of Humour (SHQ)</td>
<td>-.242**</td>
<td>-.047</td>
<td>59.63</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Mp Subscale (SHQM)</td>
<td>-.300**</td>
<td>-.180*</td>
<td>.730**</td>
<td>21.15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Ep Subscale (SHQE)</td>
<td>.198*</td>
<td>.145</td>
<td>.306**</td>
<td>-.037</td>
<td>18.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Lp Subscale (SHQL)</td>
<td>-.247**</td>
<td>-.009</td>
<td>.791**</td>
<td>.343**</td>
<td>-.070</td>
<td>20.35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Coping Humour Scale (CHS)</td>
<td>-.331**</td>
<td>-.063</td>
<td>.426**</td>
<td>.380**</td>
<td>.097</td>
<td>.300**</td>
<td>18.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Support by Friends (PSS-Fr)</td>
<td>-.424**</td>
<td>-.151</td>
<td>.214**</td>
<td>.237**</td>
<td>-.074</td>
<td>.183*</td>
<td>.175*</td>
<td>15.09</td>
<td></td>
</tr>
<tr>
<td>9. Support by Family (PSS-Fa)</td>
<td>-.423**</td>
<td>-.275**</td>
<td>.057</td>
<td>.110</td>
<td>-.174</td>
<td>.100</td>
<td>.117</td>
<td>.249**</td>
<td>12.63</td>
</tr>
</tbody>
</table>

*Means appear on the diagonal

** p < .01      * p < .05
and the measure of perceived support by family \((r = -0.275, p < .01)\). Interestingly, the only variable that is correlated in a positive direction with the life event stress measure is the Sense of Humour subscale of Emotional Expressiveness (Ep) \((r = 0.145)\). The other measures, although not significant, bear an inverse relationship with negative-life-event stress.

**Hypothesis II**

This hypothesis predicted there would be a significant relationship between social support and depression, with higher social support associated with lower depression scores. As presented in Table 2, results show that both measures of social support, perceived support by friends and by family, are significantly associated with depression and the respective correlations are almost identical \((r = -0.424 \text{ and } r = -0.423, p < .01)\). Both of these negative relationships indicate that as support increases depression decreases, or conversely, as depression increases support decreases. Given the correlational nature of these results, however, it is not possible to interpret causal direction.

**Hypothesis III**

This hypothesis predicted there would be a significant relationship between each of the humour measures and depression, with higher humour scores associated with lower depression scores. In addition to the total humour score, the SHQ measure was broken down into its component subscales: Meta - Message Sensitivity (SHQM), Emotional
Expressiveness (SHQE), and the Personal Liking of Humour measure (SHQL). Results are reported on the Sense of Humour measure as a whole and on the specific subscales.

From Table 2 it can be seen that the Sense of Humour Questionnaire (SHQ), its three subscales, SHQM, SHQE and SHQL, as well as the Coping Humour Scale (CHS), are all significantly correlated with depression. Correlations range from a high of $r = -0.331$ with the CHS, to a low of $-0.242$ with the SHQ measure ($p < 0.01$). As predicted, most of these relationships are in the negative direction indicating that as humour increases depression decreases. However, causality cannot be assumed based on the correlational nature of these findings.

It is interesting to note that the SHQE subscale has a significant and positive relationship with the measure of depression, ($r = 0.198$, $p < 0.05$). This finding does not support this hypothesis. However, since the measure as a whole does support the hypothesis (SHQ, $r = -0.242$) as do the other two subscales (SHQM, $r = -0.300$; SHQL, $r = -0.247$, $p < 0.01$), the validity of this particular subscale must be questioned. The Ep subscale consistently provides correlations in an opposite direction to those correlations found in the other two subscales. The Emotional Expressiveness subscale might well be measuring something other than humour.

**Hypothesis IV**

This hypothesis predicted a significant relationship between humour and social support, with higher humour
associated with higher social support. Support was found for this hypothesis for the support by friends measure (PSS-Fr), but not for the support by family measure (PSS-Fa).

The intercorrelations presented in Table 2 reflect some interesting findings. The SHQ measure indicates a significant correlation with perceived support by friends \((r = .214, p < .01)\). Also, the Mp subscale and the Lp subscale reflect significant correlation coefficients \((r = .237\) and \(r = .183\)) significant at the \(p < .01\) and \(p < .05\) levels respectively, when associated with support by friends. However, none of the humour measures show a significant correlation with perceived social support by family, and the Ep humour subscale does not correlate significantly with either the PSS-Fr or the PSS-Fa measures.

Similarly, the CHS measure is significantly correlated with support by friends \((r = .175, p < .05)\), but does not have a significant relationship with the support by family measure \((r = .117)\).

**Hypothesis V**

This hypothesis predicted that social support and humour would function as moderators of life-event stress. Partial support for this was obtained from the present study. Social support was found to moderate stress in some of the regression equations, but humour did not act as a moderator of stress except when considered in interaction with measures of support.
To test this hypothesis the data were subjected to a series of multiple regressions. In each analysis, stress, support and humour were entered into the equation in that order with the various interaction variables then entered step-wise such that those variables with the largest partial correlation coefficients were selected for subsequent entry. Different regressions were conducted for each of the social support and humour measures, so that a total of 10 such regressions were conducted. Before presenting the results specific to hypothesis V, results from an additional multiple regression for the main effect variables will be considered. Table 3 is presented to make these results more easily understood.

Main Effect Variables. When the primary variables, Stress, Support by Friends, Support by Family, Sense of Humour and the Coping Humour Scale scores were entered into the regression equation in that order all variables were found to have significant F values. The largest value, $F = 27.63 \ (p < .001)$ can be seen to result from the social support by friends measure, after the effects of stress have been removed. The smallest value, $F = 5.04 \ (p < .05)$ resulted from step 4 when the Sense of Humour score was added to the equation. This is interpreted as the proportion of depression score variance that was accounted for by this sense of humour measure after the effects of stress and both measures of support had been partialled out. The final contributing factor, the Coping Humour Scale, resulted in an F value of
## TABLE 3

HIERARCHICAL MULTIPLE REGRESSION SUMMARY

<table>
<thead>
<tr>
<th>Variable</th>
<th>$r$</th>
<th>Beta</th>
<th>$R$</th>
<th>$R^2$ increment$^a$</th>
<th>$F^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Stress (CSLES)</td>
<td>.35**</td>
<td>.348</td>
<td>.348</td>
<td>.121</td>
<td>19.82**</td>
</tr>
<tr>
<td>Support by Friends (PSS-Fr)</td>
<td>-.42**</td>
<td>-.380</td>
<td>.512</td>
<td>.141</td>
<td>27.63**</td>
</tr>
<tr>
<td>Support by Family (PSS-Fa)</td>
<td>-.42**</td>
<td>-.282</td>
<td>.577</td>
<td>.070</td>
<td>15.11**</td>
</tr>
<tr>
<td>Sense of Humour (SHQ)</td>
<td>-.24**</td>
<td>-.154</td>
<td>.596</td>
<td>.023</td>
<td>5.04*</td>
</tr>
<tr>
<td>Coping Humour Scale (CHS)</td>
<td>-.33**</td>
<td>-.209</td>
<td>.625</td>
<td>.035</td>
<td>8.32**</td>
</tr>
</tbody>
</table>

Note. Dependent variable = Beck Depression Inventory Scores

$^a$ The $R^2$ increment is the squared semipartial $r$ at that step and may be interpreted as the proportion of depression score variance accounted for by the given independent variable when the effects of the previously entered variables have been controlled.

$^b$ The F value listed at each step indicates the statistical significance of the $R^2$ increment at that step. All F ratios were calculated using total sample so that the df for tests of all individual variables was (1, 144).

** $p < .01$

* $p < .05$
8.32, \( p < .01 \) entered at step 5. As can be seen, all of the primary variables contributed some unique variance to the regression equation.

Two-Way Interactions. The first significant two-way interaction was found in the fourth regression equation when Stress, Family Support and the Meta-Message Sensitivity subscale of the Sense of Humour Questionnaire were the primary variables under analysis. Stress X Family Support resulted in a significant \( R^2 \) increment, \( F = 4.21 \ (p < .05) \) as presented in Table 4. This interaction supports Hypothesis V. Comparison of the depression score means for subjects high and low on these variables (using median split method) indicate that subjects high on life stress and low on family support had the highest BDI mean of 10.50 whereas those high on stress and family support had a mean depression score of 7.56. These group differences were significant, \( t = 5.27 \ (p < .01, \) two tailed). Social support is acting as a moderator of life-event stress and is providing a unique contribution to the depression score variance. Additionally, the Family Support X Humour interaction also resulted in a significant \( R^2 \) increment, \( F = 4.56 \ (p < .05) \) indicating that these two variables in interaction account for some variance in the depression score not already accounted for by the first four variables.

A significant interaction was found in the sixth regression equation, Family Support X Emotional Expressiveness (subscale of the Sense of Humour Questionnaire). The highest
TABLE 4

HIERARCHICAL MULTIPLE REGRESSION SUMMARY

<table>
<thead>
<tr>
<th>Step&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Variable</th>
<th>r</th>
<th>Beta</th>
<th>R</th>
<th>R&lt;sup&gt;2&lt;/sup&gt; increment&lt;sup&gt;b&lt;/sup&gt;</th>
<th>F&lt;sup&gt;c&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Life Stress</td>
<td>.35**</td>
<td>.348</td>
<td>.348</td>
<td>.121</td>
<td>19.82**</td>
</tr>
<tr>
<td>2</td>
<td>Support by Family (PSS-Fa)</td>
<td>-.42**</td>
<td>-.354</td>
<td>.487</td>
<td>.116</td>
<td>21.85**</td>
</tr>
<tr>
<td>3</td>
<td>Mp Humour Subscale (SHQM)</td>
<td>-.30**</td>
<td>-.225</td>
<td>.534</td>
<td>.049</td>
<td>9.79**</td>
</tr>
<tr>
<td>4</td>
<td>Stress X Support (CSFA)</td>
<td>.05</td>
<td>.356</td>
<td>.553</td>
<td>.020</td>
<td>4.21*</td>
</tr>
<tr>
<td>5</td>
<td>Support X Humour (FAHQM)</td>
<td>-.45**</td>
<td>1.250</td>
<td>.572</td>
<td>.021</td>
<td>4.56*</td>
</tr>
</tbody>
</table>

Note. Dependent variable = Beck Depression Inventory Scores

<sup>a</sup>Step-wise regression for interaction variables only

<sup>b</sup>The R<sup>2</sup> increment is the squared semipartial r at that step and may be interpreted as the proportion of depression score variance accounted for by the given independent variable when the effects of the previously entered variables have been controlled.

<sup>c</sup>The F value listed at each step indicates the statistical significance of the R<sup>2</sup> increment at that step. All F ratios were calculated using total sample so the df for tests of all individual variables was (1, 144).

** p < .01

* p < .05
depression score mean of 10.24 was found in the low support and high humour group compared to a mean of 5.59 found in the high support and low humour group. Although this interaction does indicate a unique factor was contributed to the regression and accounts for a significant $R^2$ increment, $F = 5.08$ ($p < .05$), such an effect was not predicted by Hypothesis V and does not reflect the effects of support or humour in interaction with stress.

The final significant two-way interaction was found in the tenth equation and also supports Hypothesis V. After ordering the three primary variables, Stress, Family Support and the Coping Humour scores into the equation the Family Support X Stress interaction, selected at step 4, resulted in a significant $R^2$ increment, $F = 4.19$ ($p < .05$). The largest BDI mean of 10.59 was found in the high stress and low support group compared to a mean of 5.05 in the low stress, high support group. Tables 5 and 6 present the data.

Summary. Although many of the regression equations computed with variable interactions did not yield significant $F$ values, others of the various interactions did result in significant $R^2$ increments. Hypothesis V was supported in part. Social support received from family members was found to serve as a moderator of life-event stress, but support was not obtained for humour as a moderating variable. Both perceived social support and humour, however, were found to be directly associated with depression.
### TABLE 5

**HIERARCHICAL MULTIPLE REGRESSION SUMMARY**

<table>
<thead>
<tr>
<th>Step&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Variable</th>
<th>r</th>
<th>Beta</th>
<th>R</th>
<th>$R^2$ increment&lt;sup&gt;b&lt;/sup&gt;</th>
<th>F&lt;sup&gt;c&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Life Stress (CSLES)</td>
<td>.35**</td>
<td>.348</td>
<td>.348</td>
<td>.121</td>
<td>19.82**</td>
</tr>
<tr>
<td>2</td>
<td>Support by Family (PSS-Fa)</td>
<td>-.42**</td>
<td>-.354</td>
<td>.487</td>
<td>.116</td>
<td>21.85**</td>
</tr>
<tr>
<td>3</td>
<td>Coping Humour Scale (CHS)</td>
<td>-.33**</td>
<td>-.278</td>
<td>.559</td>
<td>.076</td>
<td>15.97**</td>
</tr>
<tr>
<td>4</td>
<td>Stress X Support (CSFA)</td>
<td>.05</td>
<td>.348</td>
<td>.577</td>
<td>.019</td>
<td>4.19*</td>
</tr>
<tr>
<td>5</td>
<td>Support X Humour (FACHS)</td>
<td>-.47**</td>
<td>.651</td>
<td>.589</td>
<td>.015</td>
<td>3.25ns</td>
</tr>
<tr>
<td>6</td>
<td>Stress X Support X Humour (CSFACHS)</td>
<td>-.04</td>
<td>-.491</td>
<td>.595</td>
<td>.007</td>
<td>1.60ns</td>
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<tr>
<td>7</td>
<td>Stress X Humour</td>
<td>.21**</td>
<td>1.184</td>
<td>.601</td>
<td>.007</td>
<td>1.48ns</td>
</tr>
</tbody>
</table>

Note. Dependent variable = Beck Depression Inventory Scores

<sup>a</sup>Step-wise regression for interaction variables only

<sup>b</sup>The $R^2$ increment is the squared semipartial $r$ at that step and may be interpreted as the proportion of depression score variance accounted for by the given independent variable when the effects of the previously entered variables have been controlled.

<sup>c</sup>The F value listed at each step indicates the statistical significance of the $R^2$ increment at that step. All F ratios were calculated using total sample so the df for tests of all individual variables was (1, 144).

** p < .01,  * p < .05
### TABLE 6

**STRESS X PERCEIVED SUPPORT BY FAMILY INTERACTION MEANS**

<table>
<thead>
<tr>
<th></th>
<th>CSLES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HIGH</td>
</tr>
<tr>
<td>HIGH</td>
<td>7.56</td>
</tr>
<tr>
<td>PSS-Fa</td>
<td>HIGH</td>
</tr>
<tr>
<td>LOW</td>
<td>10.59</td>
</tr>
</tbody>
</table>

**Graph:**
- **HIGH PSS-Fa** (solid line)
- **LOW PSS-Fa** (dashed line)

**Depression (BDI) vs. Life-Stress (CSLES):**
- **HIGH**: 12, 10, 8
- **LOW**: 6, 4, 2
Three-Way Interactions. In the second regression equation, the primary variables of Stress (CSLES), Support (PSS-Fa) and Humour (SHQ) were entered into the equation in that order and the various two and three-way interactions were entered using the step-wise procedure. As can be seen in Table 7, the first interaction variable to be selected was the interaction of Stress X Family Support X Humour. The $R^2$ increment obtained from step 4 resulted in a significant $F(1, 144) = 4.84, p < .05$.

To understand the relationship between Stress, Family Support and Humour the scores were broken down into high and low groups using a median split procedure, and the mean depression scores for each combination of groups resulted in a $2 \times 2 \times 2$ analysis as presented in Table 8. The mean depression scores were then compared using a t-test for groups with unequal n's.

As can be seen, the low support X low humour group is most depressed at all levels of stress but the most negative effects occur under conditions of high stress. In comparing this low support X low humour group to the low support X high humour group under conditions of high stress the significant t value of 6.96 ($p < .01$, two tailed) points up the buffering effect that humour seems to have in interaction with social support against the impact of stress. This finding lends support to Hypothesis V.

The high support X high humour group is least affected by even high levels of stress with a mean depression score
<table>
<thead>
<tr>
<th>Step</th>
<th>Variable</th>
<th>r</th>
<th>Beta</th>
<th>R</th>
<th>$R^2$ increment</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Life Stress</td>
<td>.35**</td>
<td>.348</td>
<td>.348</td>
<td>.121</td>
<td>19.82**</td>
</tr>
<tr>
<td>2</td>
<td>Support by Family (PSS-Fa)</td>
<td>-.42**</td>
<td>-.354</td>
<td>.487</td>
<td>.116</td>
<td>21.85**</td>
</tr>
<tr>
<td>3</td>
<td>Sense of Humour (SHQ)</td>
<td>-.24**</td>
<td>-.211</td>
<td>.530</td>
<td>.044</td>
<td>8.86**</td>
</tr>
<tr>
<td>4</td>
<td>Stress X Support X Humour (CSFASHQ)</td>
<td>.04</td>
<td>.381</td>
<td>.552</td>
<td>.023</td>
<td>4.84*</td>
</tr>
<tr>
<td>5</td>
<td>Support X Humour (FASHQ)</td>
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<td>.787</td>
<td>.556</td>
<td>.004</td>
<td>.97ns</td>
</tr>
<tr>
<td>6</td>
<td>Stress X Humour (CSSHQ)</td>
<td>.32**</td>
<td>-.514</td>
<td>.557</td>
<td>.000</td>
<td>.21ns</td>
</tr>
</tbody>
</table>

Note. Dependent variable = Beck Depression Inventory Scores

a Step-wise regression for interaction variables only

b The $R^2$ increment is the squared semipartial r at that step and may be interpreted as the proportion of depression score variance accounted for by the given independent variable when the effects of the previously entered variables have been controlled.

c The F value listed at each step indicates the statistical significance of the $R^2$ increment at that step. All F ratios were calculated using total sample so the df for tests of all individual variables was (1, 144).

** p < .01
* p < .05
TABLE 8

STRESS X FAMILY SUPPORT X HUMOUR INTERACTION MEANS

<table>
<thead>
<tr>
<th>BDI MEANS</th>
<th>CSLES</th>
<th>PSS-Fa</th>
<th>SHQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.60</td>
<td>HIGH</td>
<td>HIGH</td>
<td>HIGH</td>
</tr>
<tr>
<td>8.75</td>
<td>HIGH</td>
<td>HIGH</td>
<td>LOW</td>
</tr>
<tr>
<td>8.54</td>
<td>HIGH</td>
<td>LOW</td>
<td>HIGH</td>
</tr>
<tr>
<td>13.25</td>
<td>HIGH</td>
<td>LOW</td>
<td>LOW</td>
</tr>
<tr>
<td>4.05</td>
<td>LOW</td>
<td>HIGH</td>
<td>HIGH</td>
</tr>
<tr>
<td>6.05</td>
<td>LOW</td>
<td>HIGH</td>
<td>LOW</td>
</tr>
<tr>
<td>8.47</td>
<td>LOW</td>
<td>LOW</td>
<td>HIGH</td>
</tr>
<tr>
<td>8.81</td>
<td>LOW</td>
<td>LOW</td>
<td>LOW</td>
</tr>
</tbody>
</table>

DEPRESSION (BDI) vs LIFE-STRESS (CSLES)

- HIGH SUPPORT X HIGH HUMOUR
- HIGH SUPPORT X LOW HUMOUR
- LOW SUPPORT X HIGH HUMOUR
- LOW SUPPORT X LOW HUMOUR
of 6.60. Under conditions of low levels of stress this group shows a mean depression score of 4.05. The interaction of high support and high humour seems to afford a stress-buffering effect to these individuals under all levels of stress. This particular interaction supports Hypothesis V, in part, reflecting the moderating effect these variables seem to have in interaction.

Regression equation number six resulted in some interesting findings that do not fit with previous results thus far. When the primary variables of Stress, Support (PSS-Fa) and Humour (Ep subscale) were entered into the equation and the interaction variables were entered according to the step-wise procedure, a significant three-way interaction occurred at step 5. Stress X Family Support X Humour was found to add a significant contribution to the depression score variance, $F = 5.16, p < .05$. Given the SHQE variable's lack of correlation with the two measures of support (see Table 2), its positive relationship with depression and life-events stress, and its lack of influence in other regression equations, this finding must be interpreted with caution. This three-way interaction did have a significant effect on the depression score variance and did contribute a unique factor to the equation once the effects of the previously entered variables had been held constant, but the finding was not clear.

To further understand the relationship between these three primary variables the data were divided into high and
low subgroups for each measure using a median split procedure. The mean depression scores for these subgroups were then analyzed using a t-test for groups with unequal n's and the relationships were plotted on a graph. Table 9 represents this analysis. As can be seen, these results reflect a buffering effect for the support measure with the highest depression score mean associated with high stress and high emotional expressiveness (humour measure), but with low support (BDI $\bar{x} = 10.71$). The least depressed group, with a mean depression score of 4.27, is that group with high support and low humour (emotional expressiveness subscale) under conditions of low life-events stress. Under the high stress condition the high support and high humour group were significantly more depressed than the high support and low humour group, ($t = 2.31$, $p < .05$, two tailed). When considering a comparison of the low support and high humour group with the low support and low humour group under conditions of low stress (respective BDI $\bar{x}$'s = 7.80 and 8.96) the differences between groups were found to be not significant. These results do not support the hypotheses of this study with regard to humour variables but do indicate support for Hypothesis V in terms of the moderating effect of the social support by family measure. Given that the humour measure here was the Ep subscale, and given previous findings in this study, these results are not entirely surprising.

A final significant three-way interaction resulted
### TABLE 9

**STRESS X FAMILY SUPPORT X EMOTIONAL EXPRESSIVENESS HUMOUR**

<table>
<thead>
<tr>
<th>BDI MEANS</th>
<th>CSLES</th>
<th>PSS-Fa</th>
<th>SHQE</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.00</td>
<td>HIGH</td>
<td>HIGH</td>
<td>HIGH</td>
</tr>
<tr>
<td>6.77</td>
<td>HIGH</td>
<td>HIGH</td>
<td>LOW</td>
</tr>
<tr>
<td>10.71</td>
<td>HIGH</td>
<td>LOW</td>
<td>HIGH</td>
</tr>
<tr>
<td>9.85</td>
<td>HIGH</td>
<td>LOW</td>
<td>LOW</td>
</tr>
<tr>
<td>5.33</td>
<td>LOW</td>
<td>HIGH</td>
<td>HIGH</td>
</tr>
<tr>
<td>4.27</td>
<td>LOW</td>
<td>HIGH</td>
<td>LOW</td>
</tr>
<tr>
<td>7.80</td>
<td>LOW</td>
<td>LOW</td>
<td>HIGH</td>
</tr>
<tr>
<td>8.96</td>
<td>LOW</td>
<td>LOW</td>
<td>LOW</td>
</tr>
</tbody>
</table>

![Graph showing depression (BDI) against life-stress (CSLES)]
from the eighth regression equation summarized in Table 10. The primary variables, Stress, Family Support and Humour (Personal Liking subscale of the SHQ) were entered into the equation and the various interaction variables were then selected and analyzed for significant $R^2$ increment at each step. At step 4 the Stress X Support X Humour interaction resulted in a significant $R^2$ increment, $F = 6.21$, $p < .01$. This variable is adding some unique factor to the depression score variance.

To understand the nature of this relationship, the three primary variables were broken down into high and low subgroups via the median split method, and the depression score means were compared using a t-test for groups with unequal n's. The results for this procedure are shown in Table 11. When the high support and high humour group was compared to the high support and low humour group under conditions of high stress, no significant difference was found. However, the relationship between the low support and low humour group and the low support and high humour group under high stress conditions did result in a significant difference between group means on the depression score, (11.53 and 8.35 respectively), $t = 4.74$ ($p < .01$, two tailed). Given low perceived support by family and conditions of high stress, those students who report a personal liking of humour are less depressed than for those who do not report such a liking. Although not predicted by Hypothesis V these results suggest a dual role of support X humour.
TABLE 10

HIERARCHICAL MULTIPLE REGRESSION SUMMARY

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable</th>
<th>r</th>
<th>Beta</th>
<th>R</th>
<th>$R^2$ increment</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Life Stress (CSLES)</td>
<td>.35**</td>
<td>.348</td>
<td>.348</td>
<td>.121</td>
<td>19.82**</td>
</tr>
<tr>
<td>2</td>
<td>Support by Family (PSS-Fa)</td>
<td>-.42**</td>
<td>-.354</td>
<td>.487</td>
<td>.116</td>
<td>21.85**</td>
</tr>
<tr>
<td>3</td>
<td>Sense of Humour (SHQL)</td>
<td>-.25**</td>
<td>-.212</td>
<td>.530</td>
<td>.044</td>
<td>8.88**</td>
</tr>
<tr>
<td>4</td>
<td>Stress X Support X Humour (CSFAHQL)</td>
<td>.04</td>
<td>.409</td>
<td>.558</td>
<td>.030</td>
<td>6.21**</td>
</tr>
<tr>
<td>5</td>
<td>Support X Humour (FAHQL)</td>
<td>-.44**</td>
<td>.724</td>
<td>.568</td>
<td>.011</td>
<td>2.41ns</td>
</tr>
<tr>
<td>6</td>
<td>Stress X Support (CSFA)</td>
<td>.05</td>
<td>-.373</td>
<td>.569</td>
<td>.002</td>
<td>.38ns</td>
</tr>
<tr>
<td>7</td>
<td>Stress X Humour (CSHQ)</td>
<td>.29**</td>
<td>-.858</td>
<td>.570</td>
<td>.001</td>
<td>.32ns</td>
</tr>
</tbody>
</table>

Note. Dependent variable = Beck Depression Inventory Scores

a Step-wise regression for interaction variables only

b The $R^2$ increment is the squared semipartial r at that step and may be interpreted as the proportion of depression score variance accounted for by the given independent variable when the effects of the previously entered variables have been controlled.

c The F value listed at each step indicates the statistical significance of the $R^2$ increment at that step. All F ratios were calculated using total sample so the df for tests of all individual variables was (1, 144).

** p < .01,  * p < .05
### Table 11

**Stress x Family Support x Personal Liking Humour**

<table>
<thead>
<tr>
<th>BDI Means</th>
<th>CSLES</th>
<th>PSS-Fa</th>
<th>SHQL</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.50</td>
<td>HIGH</td>
<td>HIGH</td>
<td>HIGH</td>
</tr>
<tr>
<td>7.15</td>
<td>HIGH</td>
<td>HIGH</td>
<td>LOW</td>
</tr>
<tr>
<td>8.35</td>
<td>HIGH</td>
<td>LOW</td>
<td>HIGH</td>
</tr>
<tr>
<td>11.53</td>
<td>HIGH</td>
<td>LOW</td>
<td>LOW</td>
</tr>
<tr>
<td>3.80</td>
<td>LOW</td>
<td>HIGH</td>
<td>HIGH</td>
</tr>
<tr>
<td>5.13</td>
<td>LOW</td>
<td>HIGH</td>
<td>LOW</td>
</tr>
<tr>
<td>8.73</td>
<td>LOW</td>
<td>LOW</td>
<td>HIGH</td>
</tr>
<tr>
<td>8.38</td>
<td>LOW</td>
<td>LOW</td>
<td>LOW</td>
</tr>
</tbody>
</table>

![Graph showing depression (BDI) vs. life-stress (CSLES) for different conditions of support and humour.](image-url)

- High Support x High Humour
- High Support x Low Humour
- Low Support x High Humour
- Low Support x Low Humour
Summary. Of the various possible three-way variable interactions that were entered into the step-wise multiple regression equations, three such interactions were found to result in significant $R^2$ increments. The respective $F$ values associated with these interactions indicate that when these variables are considered jointly, after the effects of previously entered variables have been partialled out, their contribution to the depression score variance is adding some unique factor to the equation. Stress X Family Support X SHQ; Stress X Family Support X SHQE and Stress X Family Support X SHQL were all found to be significant interaction variables in this study. However, given the number of three-way interactions analyzed coupled with the small number of significant effects, these interactions should be interpreted cautiously.

These three instances of triple interaction effects occurred only with the Perceived Social Support by Family measure in interaction with the Sense of Humour Questionnaire and two of its subscales. While the exact nature of these interactions are somewhat complex, the overall interpretation is that subjects reporting both high levels of support and humour indicate lower depression scores than those subjects who report low levels of support and humour, especially under conditions of high stress. These results are more consistent for the social support variable across equations.
Additional Findings

The data were analyzed to discover possible group differences on depression score means using various demographic characteristics, and then to discover possible group differences based on the relationship between negative-life-events stress and demographic variables as reflected in depression scores. The purpose of such analyses was to consider differences between groups based on factors of age, gender, ethnicity and year of study and to discuss such differences in terms of social support and humour. No specific hypotheses were advanced regarding these analyses and findings are reported in terms of their relevance to possible future studies.

In all of the following group comparisons, data were broken down into two groups using a median split procedure for each variable and depression score means were then subjected to a t-test for groups with unequal n's. Such a procedure results in a 2 x 2 between groups comparison.

Age. Using a median age of 21 years the student sample was divided into two groups and mean depression scores were compared. Students 21 years and younger were found to be significantly more depressed than those students 22 years and older, t = 6.01 (p < .01, two tailed).

Using a median negative-life-events stress score of 15 and a median age of 21 years, mean depression scores were not found to be significantly different between groups. In this sample of college students age was a significant
predictor of depression when considered independently of all other variables (BDI $\bar{x} \leq 21 = 9.16; BDI \bar{x} > 21 = 6.75$). However, when age x stress was analyzed the group differences were not significant.

**Gender.** When females and males were compared on self-reported levels of depression no differences were found between groups. However, in comparing females with males under conditions of high and low stress, males were found to have a significantly higher mean depression score (10.65) than females (9.11) when highly stressed ($t = 2.38, p < .05$, two tailed). Under low stress conditions however, there were no differences between women and men. Table 12 is presented now to make these findings more readily understood.

**Ethnicity.** Separate analyses were conducted to compare Mexican with Caucasian respondents, and to compare differences between Black and Caucasian students. A third comparison was drawn between Caucasian and non-Caucasian students. Tables 12 and 13 represent these findings.

The mean depression score for Mexican students was found to be 10.58 compared to a score of 7.42 for the Caucasian student sample. These group means were significant at the $p < .01$ level ($t = 4.41$, two tailed). When the stress condition was also considered there were no differences between groups under high stress. However, under the low stress condition, the Mexican student mean score of 10.75 was significantly higher than that of the Caucasian students mean depression score of 5.96. This group of Mexican
TABLE 12

STRESS X GENDER AND STRESS X ETHNICITY
INTERACTION MEANS

<table>
<thead>
<tr>
<th></th>
<th>CSLES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HIGH</td>
<td>LOW</td>
</tr>
<tr>
<td>FEMALE</td>
<td>9.11</td>
<td>6.74</td>
</tr>
<tr>
<td>MALE</td>
<td>10.65</td>
<td>6.11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>CSLES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HIGH</td>
<td>LOW</td>
</tr>
<tr>
<td>CAUCASIAN</td>
<td>9.08</td>
<td>5.96</td>
</tr>
<tr>
<td>MEXICAN</td>
<td>10.50</td>
<td>10.75</td>
</tr>
</tbody>
</table>

![Graph showing depression (BDI) vs. life-stress (CSLES) for different gender and ethnicity groups.](image-url)
TABLE 13

STRESS X ETHNICITY INTERACTION MEANS

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>BDI Means</th>
<th>CSLES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>CAUCASIAN</td>
<td>9.08</td>
<td>5.96</td>
</tr>
<tr>
<td>BLACK</td>
<td>9.44</td>
<td>10.00</td>
</tr>
</tbody>
</table>

CAUCASIAN
BLACK

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAUCASIAN</td>
<td>9.08</td>
<td>5.96</td>
</tr>
<tr>
<td>NON-CAUCASIAN</td>
<td>10.44</td>
<td>8.50</td>
</tr>
</tbody>
</table>

CAUCASIAN
NON-CAUCASIAN

Graphs showing depression (BDI) levels across high and low life-stress (CSLES) for CAUCASIAN and NON-CAUCASIAN groups.
students did indicate significantly higher depression scores than Caucasians, \( t = 7.53 \) (\( p < .01 \), two tailed).

Similar results were found in comparing Black students with Caucasians. A mean depression score of 9.59 for Blacks was significantly higher than the depression score mean of 7.42 for the Caucasian group. Although no differences were found between groups under high stress conditions, when mean depression scores of 10.00 for Black students was compared to a mean of 5.96 for Caucasians under conditions of low stress the difference was significant (\( t = 3.97, p < .01 \), two tailed).

In comparing depression score means of Caucasians to all other ethnic groups, or non-Caucasians, differences were found at all levels of analyses. As a group non-Caucasians mean depression score was 9.59 compared to a mean of 7.42 for Caucasians. This difference was significant at \( p < .01 \) level (\( t = 4.79 \), two tailed). When levels of stress were included in making group comparisons differences were found between groups under both high and low stress conditions. Under high stress with a mean of 10.44 non-Caucasians were significantly more depressed than Caucasians with a mean of 9.08 (\( t = 2.26, p < .05 \), two tailed). Under low stress conditions non-Caucasians mean depression score of 8.50 was significantly higher than that of the Caucasian group with a mean of 5.96 (\( t = 3.77, p < .01 \), two tailed). The implications of the possible role played by the social support and humour variables will be considered in the discussion chapter.
Class. In a comparison of depression score means between first year students and seniors, significant group differences were found. Freshmen indicated a self-reported depression score mean of 9.70 compared to seniors with a mean of 6.71. This group difference was significant at the \( p < .01 \) level (\( t = 5.62 \), two tailed).

Under conditions of high stress freshman indicate a higher level of depression with a mean of 12.00 compared to that reported by the seniors, 5.83. These group means were significantly different, \( t = 7.52 \) (\( p < .01 \), two tailed). When group means were considered under conditions of low stress no significant differences were found, (see Table 14).

Age X Gender. When variables of age and gender were considered a 2 x 2 analysis resulted in a significant difference between females and males 21 years of age or younger. Young men indicated a mean depression score of 9.80 compared to a mean depression score of 8.53 for young women. This difference was significant at the \( p < .05 \) level, (\( t = 2.00 \), two tailed).

When variables of stress, age and gender were all considered in a 2 x 2 x 2 analysis, findings as shown in Table 15 were analyzed. As can be seen, males over age 21 years were more depressed when highly stressed than any other group (BDI \( \bar{x} = 12.40 \)) with the largest difference found in comparison to females over age 21 (BDI \( \bar{x} = 7.81 \)), \( t = 3.79 \) (\( p < .01 \), two tailed). Interestingly, under low stress conditions males over age 21 are the least depressed
### TABLE 14

**STRESS X CLASS INTERACTION MEANS**

<table>
<thead>
<tr>
<th></th>
<th>CSLES</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HIGH</td>
<td>LOW</td>
<td></td>
</tr>
<tr>
<td>BDI MEANS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FRESHMEN</td>
<td>12.00</td>
<td>5.81</td>
<td></td>
</tr>
<tr>
<td>SENIORS</td>
<td>5.83</td>
<td>7.12</td>
<td></td>
</tr>
</tbody>
</table>

**Graph:**

- **DEPRESSION (BDI):**
  - **HIGH**
  - **LOW**
- **LIFE-STRESS (CSLES):**
### TABLE 15

**STRESS X AGE X GENDER INTERACTION MEANS**

<table>
<thead>
<tr>
<th>BDI MEANS</th>
<th>CSLES</th>
<th>AGE</th>
<th>GENDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.81</td>
<td>HIGH</td>
<td>22+</td>
<td>F</td>
</tr>
<tr>
<td>12.40</td>
<td>HIGH</td>
<td>22+</td>
<td>M</td>
</tr>
<tr>
<td>9.63</td>
<td>HIGH</td>
<td>21-</td>
<td>F</td>
</tr>
<tr>
<td>9.92</td>
<td>HIGH</td>
<td>21-</td>
<td>M</td>
</tr>
<tr>
<td>6.92</td>
<td>LOW</td>
<td>22+</td>
<td>F</td>
</tr>
<tr>
<td>3.55</td>
<td>LOW</td>
<td>22+</td>
<td>M</td>
</tr>
<tr>
<td>6.43</td>
<td>LOW</td>
<td>21-</td>
<td>F</td>
</tr>
<tr>
<td>9.63</td>
<td>LOW</td>
<td>21-</td>
<td>M</td>
</tr>
</tbody>
</table>

![Graph showing depression (BDI) versus life-stress (CSLES)](image)

- **FEMALE 22+**
- **MALE 22+**
- **FEMALE 21-**
- **MALE 21-**
group with a mean depression score of 3.55, with the largest group difference found in comparison to males under 21 years of age with a mean score of 9.63. This difference was significant at the \( p < .01 \) level (\( t = 6.41 \), two tailed). Under high stress conditions, women of all ages were less depressed than males.

**Summary.** Some interesting findings resulted when demographic variables were considered and analyses were conducted on depression score means. Age, ethnicity and year of study were all found to have various significant effects in between group comparisons of depression score means. When demographic variables were considered in interaction with negative-life-events stress and analyses were conducted on depression score means a number of interesting findings resulted. Although age did not reflect an interaction with stress the variables of ethnicity, gender, year of study and a three-way interaction of stress x age x gender, all resulted in significant differences between groups based on depression score means. Possible explanations for these findings and suggestions for future research based on these results are addressed in the discussion chapter.
DISCUSSION

Overall, the present findings provide further support for both perceived social support and humour as important variables to consider in terms of their association with depression and, in some cases, their role in alleviating the deleterious effects of negative-life-events stress as reflected in self-reported symptoms of depression. In addition, the effects of these two variables in interaction has shed light on the extent to which social support and humour might compliment each other and serve to moderate the sometimes debilitating effects of high stress conditions.

Results will be discussed in order of the original hypotheses. Although three-way interactions were not included in hypothesis five they were presented in the analyses and will be addressed in relation to the effects of variable interactions in that hypothesis. Additional findings will also be discussed followed by suggestions for future research.

Hypothesis I

Results of the Pearson product-moment correlations show strong support for an association between negative-life-events stress and self-reported depression for this college student sample. Given that subsequent hypotheses
were based on the existence of such a relationship between these two variables it was necessary to establish this association did exist with the present sample. The relationship, however, must be interpreted, as must all the relationships in the present study, within the limitations of the correlational nature of this research. It is possible that an individual's depressed mood might precede and therefore influence how students reported the negative impact of life change events.

An alternative interpretation, however, consistent with Beck's (et al., 1979) cognitive theory of depression and Lazarus' (1981) stress and coping paradigm, is that the likelihood of an individual becoming depressed as a result of many life change events increases with the number of such events and the individual's cognitive appraisal of the negative impact of such events. A further speculation might be advanced to suggest that the stress-depression relationship is reciprocal, with depressed mood being both a cause and an effect of life change events being interpreted as negative and resulting a perpetuation of perceived negativity.

Whatever the interpretation, these and previous findings consistently point up an existing relationship between stress and depression making the identification of factors that might buffer the psychological and physiological effects of this relationship that much more imperative. The following hypotheses and discussion address these very concerns.
Hypothesis II

The strong support obtained for this hypothesis lends additional support to recent articles that have attempted to make the relationship between social support and the negative effects of life-event stress more cogent (Dean & Ensel, 1983; Heller & Swindle, 1982; Sandler & Lakey, 1982). In addition, the measures of social support employed in this study differentiate between an individual's perception of such support and the characteristics of an existing support network acknowledged from an objective point of view. The subjective perceptual dimension of these support measures is consistent with the cognitive perspective that this study is based on as well. Procidano and Heller's (1983) differentiation between perceived support by friends and by family make this measure much more specific and allow more specific interpretations of results.

The expected results that higher depression would be correlated with lower perceived social support, was found. This finding seems most compatible with the interpretation that a lack of perceived social support by friends and family negatively influences an individual's subjective state of well being and therefore contributes to the phenomenological experience of depression. Although such an interpretation cannot be conclusively stated within the limitations of a correlational study, such an interpretation is plausible and fits the theoretical orientation of the role of cognitions and perception and appraisal (Lazarus,
1981) advanced in this investigation.

Students, many of them 21 years of age and younger, living away from home for the first time and experiencing the process of emancipation may perceive the support they receive from family members as less effective in terms of helping them alleviate the negative effects of stress. Such support may simply be not as available as it might have been in the past and this reality is reflected in behaviors, thoughts and emotions that are symptomatic of a depressed state. In addition, the influence of inadequate support by friends that might well be exacerbated by relocation to attend college, especially for freshmen, results in higher scores on self-reported depression. Such interpretations are consistent with epidemiological studies of depression in young adults (Dean & Ensel, 1983; Dean, Lin & Ensel, 1981).

**Hypothesis III**

The intuitive notion that sense of humour and depression would be inversely correlated was supported for the most part by the present results. Both the Sense of Humour Questionnaire and the Coping Humour Scale revealed strong negative correlations with scores on the Beck Depression Inventory. However, when the Sense of Humour Questionnaire was broken down into the three component scales used by Martin and Lefcourt (1983), the Emotional Expressiveness subscale resulted in a significant but positive relationship with the measure of depression. As this subscale is
sensitive to the individual's willingness to express emotion of all kinds, not just humour, it is not surprising that a predominant feeling state of sadness would be reflected in this scale. If this is the case, then this finding says more about emotional expressiveness than humour. The positive correlation suggests that students who are higher on emotional expressiveness generally also are inclined to report higher scores on the BDI which assesses a negative emotional state. Also, Martin and Lefcourt's (1983) study found this subscale to have a very low internal consistency ($\alpha = .25$) and less face validity than the other two subscales and so did not employ it in their research. The consequence of keeping this subscale, in the present study, was to lose some power in the overall Sense of Humour Questionnaire measure.

The Meta-Message Sensitivity subscale and the Personal Liking of Humour subscale both show strong support for this hypothesis as does the Coping Humour Scale. These results are interpreted as reflecting not only a cognitive dissonance model of emotion, but also an indication of Lazarus' stress-coping paradigm. As the individual perceives and interprets events in her/his life in a positive frame of reference, the consequent emotional experience is also positive and pleasurable. When perceptions and cognitive appraisals of life events are negatively constructed the emotional counterpart of that perception is subjective sadness and depression. An attitude of humour is incongruent with a simultaneous attitude of depression.
Hypothesis IV

Little research has been advanced that reflects healthy, adaptive methods of coping with life-event stress that might afford individuals some resistance to the negative impact such stress can have. Social support research is a promising exception to this. The present study proposed that a sense of humour might also function as an adaptive method of dealing with life stress, and that a complimentary relationship between these two variables would be indicated by a positive relationship between these measures. Only partial support was found for this hypothesis.

The Emotional Expressiveness subscale of the Sense of Humour Questionnaire again resulted in findings quite in opposition to those predicted by this study. A negative correlation was found to exist between the Ep subscale and both measures of perceived social support. It seems that just as this particular humour measure can be expected to reflect emotions salient to a depressed state, so it will reflect the varied emotional states experienced as a result of perceived support, or lack of such support from friends and family. Given the positive correlation found between the Ep subscale and the depression measure, and the positive correlation between this subscale and life-event stress, it is not surprising that the relationship between this measure of emotional expressiveness and perceived support would be a negative one.
The lack of correlation between the Perceived Social Support by Family measure with any of the humour measures may reflect Pracinos and Tittler's (1981) family-distance model of humour orientation which views humour as an attempt to relate from a distance. If humour is viewed as a mechanism of defense against anxiety that might be experienced as a result of poor social support perceived from family members, then we might expect an inverse relationship to exist between these measures. The results are complex and difficult to interpret, but another possible interpretation is that support by family may not be contingent at all on one's sense of humour, or visa-versa. One has a supportive family or not irrespective of one's own sense of humour. For the present study at least, no relationship was found between this measure of support and the measures of humour employed here.

The measure of Perceived Social Support by Friends was found to correlate positively with all measures of humour except the Emotional Expressiveness subscale of the Sense of Humour Questionnaire. These results are interpreted as the adaptive sociological consequences of employing humour in one's daily life. Other people simply like to be with and befriend those who are fun to be with as expressed in an attitude of humour. This causal interpretation is strengthened by findings of no association between family support and humour. Our social support system of friends can be increased as a result of being sensitive to humorous
situations in our environment and finding pleasure in
being active producers of humour, our family support system
on the other hand, is apparently not responsive to humour
in the same way. Bloch, Browning and McGrath (1983) found
that humour can be used in acceptable and adaptive ways to
bring people together in providing intimacy and understanding
among people in a group situation. Such is the interpretation
of the present results regarding perceived social support
from friends.

Hypothesis V

The prediction that both social support and humour
would function as moderators of life-event stress came out
of a number of studies that have indicated the stress-
buffering role of social support (Billings & Moos, 1982;
Dean & Ensel, 1983; Heller & Swindle, 1982; Holahan & Moos,
1981; Procidano & Heller, 1983 and Sandler & Lakey, 1982),
as well as Martin and Lefcourt's (1983) findings that
suggest humour may serve a similar important role. Given
the strong positive relationship between life stress and
depression, and the measure of support and humour, it was
expected that the interaction of stress x support, and
stress x humour would reflect the moderating effect of
these two variables on student's subjective depression
scores.

When considered as main effects only, both support and
humour accounted for a substantial proportion of variance
in the depression scores, as did the measure of life-event
stress. Interestingly, when these primary variables were subjected to a hierarchical multiple regression analysis, perceived social support received by friends accounted for more of the variance in depression scores than any other variable. And, even after the effects of stress, support by friends and support by family had been partialled out of the equation the humour measures still contributed a significant proportion of depression score variance. These results indicate that humour is contributing a unique factor to this regression equation.

The moderating effects of support and humour were less clear. Stress X Family Support did result in significant findings that support the stress-buffering hypothesis related to the role of social support as a moderator of stress. However, this finding did not hold true for social support received by friends. The Stress X Perceived Support by Friends interaction was not significant in any of the regression equations applied to the present study. It seems that student's perception of support by family members plays an important role in mediating the negative impact of life-event stress. The process of emancipation, even under stressful conditions is facilitated by the student's perception of support from family members. Support by friends, although seemingly very important as a single predictor of a depressed state, when considered in interaction with life-event stress does not provide these students with the quantity and/or quality of support necessary to alleviate
the negative effects of stress as experienced in a depressed state.

It is also possible to interpret these findings as indicative of the strength of familial support and bonding as compared to that of friendship bonding for these young adults. Under conditions of high stress, students are more likely to seek out the support of family members in a meaningful way that serves to reduce the impact of stress, but are less likely to burden friends in a state of distress that is symptomatic of depression, and then to view their friends as less supportive. The direction of causation is not clear and cannot be interpreted unquestionably given the correlational nature of this investigation.

The lack of support for the role of humour as a moderator of life-event stress is surprising given the strong support obtained for this interaction effect in Martin and Lefcourt's (1983) study. The methodological differences in data analysis probably account for some of these opposite results, as well as the inclusion, in the present study, of a measure of humour (Ep subscale) that decreased the validity and power of the Sense of Humour Questionnaire. In terms of data analysis, the present study employed Martin and Lefcourt's hierarchical multiple regression design but included a measure of social support into all regressions before any of the interaction variables were entered. This procedure was not employed by Martin and Lefcourt. Such a procedure requires that the interaction variable contribute
some unique factor, not already accounted for by the previously entered variables, to the depression score variance. It might be that these measures of humour are not specific enough (i.e., such as the Emotional Expressiveness subscale) in assessing an individual's sense of humour as a coping mechanism to contribute a unique factor to the equation.

Another possible interpretation is that a sense of humour, although important as a single predictor of depression, simply does not offer a sufficient strategy for these students to cope more effectively with the negative impact of stress.

Interestingly, an interaction that was not predicted by this hypothesis, but which had a significant statistical effect was found with the Family Support x Humour variable. This interaction had a very strong negative correlation with the measure of depression, and when entered into the regression was selected at step number 5. Such an effect suggests that this interaction variable might serve a unique stress-buffering role. Family support plus humour gave these students a real advantage in dealing with stress and protecting them against depressive symptomatology.

The three-way interaction of Stress x Family Support x Humour makes the complimentary two-way interaction of Family Support x Humour meaningful in terms of a moderating effect relative to life stress. When the data were broken down into high and low groups on dimensions of stress, support and humour, this interaction effect became more
clear. The high support and high humour group was less depressed at all levels of stress, and the low support, low humour group was more depressed at all levels of stress. The complimentary effect of these two variables in interaction seems to serve a stress-buffering effect that guards against subjective distress and depressive symptomatology in this college student sample population.

Additional Findings

Analyzing some of the demographic characteristics with respect to depression scores uncovered some interesting differences between groups with and without consideration of the effects of life-event stress. Not all of the demographic variables were subjected to analyses and some of those characteristics that were must be interpreted with caution based on small sample sizes.

When age was considered, students 21 years and younger were found to be significantly more depressed than those 22 years and older. As this factor might reasonably reflect issues of emancipation from family of origin, relocation to attend college away from home, and new and unclear expectations in the role of college student, it is not surprising that these young students reported higher levels of a depressed mood. When age was considered jointly with life stress the interaction did not reflect group differences based on depression score means. Apparently, life-event stress adds a factor that removes otherwise detectable differences between students based on age.
It is interesting that comparison of self-reported depression scores between females and males did not reflect significant group differences until the stress factor was taken into consideration. Males were found to report higher levels of depression under conditions of high stress than females. Although this difference is slight, gender differences were not expected or predicted in this study. It is unclear whether such differences reflect simply a willingness to report subjective depression in the case of males that is less apparent in females, or if perhaps the moderating effect of perceived social support by family is lower for these males. In considering the interaction effect of Stress x Family Support x Humour, another possible interpretation of these gender differences might include either less support or lower sense of humour under stressful conditions.

A look at ethnic differences reveals some interesting findings that have not yet been addressed in this study. According to these findings, with a college student population, Caucasians are less depressed overall than are other ethnic groups irrespective of life-event stress. When the stress factor is considered and Mexican and Black students are compared to Caucasians, the depression scores of the Caucasian group decrease as a function of life-event stress, with high stress associated with higher levels of subjective depression. However, both of these minority groups indicate no change in depression scores as a function
of stress, and they indicate a more depressed state than Caucasians under stressful and nonstressful conditions. It is unclear from these analyses whether these ethnic groups lack the support by family and/or the sense of humour that combine to effectively moderate stress, or if some other variables account for this finding. Perhaps the measures of social support and humour employed in this study are sensitive only to a Caucasian's interpretation of what is or is not supportive and humorous and cannot be used as a valid instrument in cross-cultural research.

A further analysis that compared the stress-depression relationship of Caucasians and all other ethnic groups resulted in a somewhat different finding. Although the non-Caucasians were significantly more depressed than the Caucasian group under all levels of stress, both groups self-reported depression decreased as a function of a decrease in life-event stress.

The small sample size in this particular comparison of ethnic groups (105 Caucasians, 12 Mexicans, 15 Blacks, 12 Asians, 2 South Americans and 1 American Indian) must be considered in interpretation and might reflect too few students to reflect any trends. However, such findings are intriguing and suggest further research is warranted if such results are to be understood.

In comparing the depression score means of freshmen to those of seniors, the first year students were found to be significantly more depressed than the seniors in
general. When life-event stress was taken into consideration the differences between groups was heightened under conditions of high stress. For these freshmen, many of them 21 years or younger, living away from home, adjusting to a new environment with new expectations, and experiencing difficulty in the process of emancipation, it is not surprising that they would indicate higher depression scores under stressful conditions. These results seem to reflect more of a life stage difficulty in terms of the new role they have than the age factor alone might suggest. That is, freshmen, regardless of age, experience more distress in their first year of college than do seniors. They haven't yet learned how to deal with these new stressors associated with student life in an adaptive fashion. Perhaps, too, they interpret the lack of proximity to family members as indicative of less support, are more reluctant to seek out the support of family, and are not secure enough yet to employ humour as an adaptive coping mechanism. These interpretations are far from obvious and the significant findings relative to year of study warrant a closer look at the meaning such group differences might reflect.

A final demographic analysis found males 21 years of age and younger to be significantly more depressed in general than other groups. Under stressful conditions females aged 22 years and older were less depressed than any other group, whereas males 22 years and older under the same conditions were scoring higher on depression than
any other group. Such results suggest a number of interpretations all of which are speculative at this point. Perhaps females are more likely to seek out the support of family members as a method of coping with stress than are adult males. Perhaps, too, females are more likely to perceive their environment with less seriousness and more humour. By so doing they expand their perception of social support received by friends and render the effects of the support x humour stress-buffering protection against depressive symptomatology. It is also likely that older students are not freshmen, for the most part, and so have learned some adaptive methods of coping with the stress students experience. However, this would not explain the highly depressed state of older males under conditions of high stress. Interestingly, this group of older males shows the lowest level of subjective depression under low stress conditions. Perhaps the tools they employ to ward off depression on a day-to-day basis are disregarded as stressful conditions mount up. Again the relationships here are obviously complex ones and cannot be ascertained from results of this correlational study. They are interesting and worthwhile questions that need to be answered if we are to understand the human stress response and variables that moderate such a response more clearly. Investigations that speak to these important concerns are suggested here.
Directions for Future Research

The present study has indicated promise for the main effect of humour as a predictor of depression and as an important variable that compliments social support and in interaction with support serves a stress-buffering role against the experience of depressive symptomatology. However, many questions have been left unanswered and many more have been posed as a result of this investigation.

Firstly, perhaps the sample population employed in the present study was not as representative of college students as it might have been. Although the median age of 21 years fits one's expectations of an 'average' college student, the age range was from 17 - 52 years with 33 students 30 years of age and older. Since the College Student Life Event Schedule and both measures of perceived social support were constructed for and standardized on young adults, it is likely that results would have been different with a more homogenous sample in terms of age.

The Emotional Expressiveness subscale of the Sense of Humour Questionnaire yields questionable validity based on Martin and Lefcourt's (1983) findings, and on the inconsistent findings of this study. A future study might well be concerned with reconstructing this instrument and making it a more internally consistent measure of emotional expressiveness specific to humour. Measuring an individual's willingness to express humour in a laughter permissive style seems an appropriate goal for this instrument, but it must
be able to differentiate between humour and other emotional experiences. Changing the questions that pertain to this subscale might offer a vast improvement on the present measure. Such changes would not only investigate the presence of this particular component, emotional expressiveness, but would lend strength to the Sense of Humour Questionnaire as a whole.

The main question posed by the present study has not been answered satisfactorily as a result of these two major concerns. However, results from the present study suggest other areas of interest that warrant closer attention.

Demographic variables of gender, ethnicity, year of study and age x gender all reflect group differences that are not readily understood. Do females employ different strategies in eliciting support from family and friends, or do they simply perceive support differently than males? Do women experience the positive effects of utilizing one's sense of humour in a more adaptive fashion than males, or do they respond to their environment in a less serious cognitive set? Do Caucasians perceive the support they receive from family and friends differently than other ethnic groups, or do these measures of support reflect important social ties that are unique to Caucasians and do not reflect cross cultural social bonds? Why do first year students experience the impact of life-event stress on a level so different than seniors? And how do seniors learn to adapt to conditions of high stress in a way that is less
debilitating than the experience of depressive symptomatology? Why do males over the age of 21 years respond so dramatically differently to low and high levels of stress? These are some of the many questions that might be answered in future studies using a more homogenous sample than the present study employed, and with measures of humour that are more valid.

Humour does seem to play a role in the relationship between stress and its possible negative effects of which depression is just one. Perhaps its function as a style of cognitive flexibility and mental health can be better understood with future investigations.
APPENDIX A

1. Terminated intimate relationship (boyfriend/girlfriend)
2. Marriage
3. Became a parent
4. Became engaged
5. Negative personal encounter with a professor
6. Marital separation or divorce
7. Increased separation from children
8. Re-established old personal friendship
9. Developed a good personal relationship with a professor
10. Beginning or increased sexual activity
11. Had a disagreement with friend (small or large disagreement)
12. Personal rejection by a close friend or lover
13. Started a love relationship
14. Increased amount of dating
15. Separation from parents or siblings
16. Separation from close friend due to moving
17. Chose to terminate relationship with close friend
18. Relationship with boyfriend or girlfriend became worse
19. Decreased number of friends
20. Significantly improved your relationship with boyfriend/girlfriend, or close friend
21. Learning that a close friend/relative is very different than you thought (e.g., sexual behavior, involvement in serious drugs, criminal activities, etc.)
22. Relationship with relative (parents, siblings, etc.)
became worse

23. Relationship with relative (parents, siblings, etc.)

became better

24. Began living with lover (excluding marriage)

25. Decreased amount of dating

26. Relationship with spouse became worse or much worse

27. Relationship with spouse improved

28. Decreased sexual activity

29. Difficulty with sexual performance

30. Developed relationships with people who have new and interesting ideas or life styles

31. Became an aunt or uncle

32. Marriage of close friend or relative

33. Death of a friend

34. Friend or relative encountered serious trouble or failure experience

35. Parents' financial status became better or much better

36. Received a visit (or visited) family

37. Worsening of parents' financial status

38. Friend or relative had important positive experience

39. Health of a close relative/friend became much worse

40. Death of a close relative (parent or sibling)

41. Parents separated or divorced

42. Remarriage of parent

43. Serious conflict between members of your family

44. Significantly increased your level of debt

45. Fired or lost job
46. Quit job
47. Received positive recognition at job (promotion, significant praise)
48. Major change in work or school hours
49. Significantly increased economic difficulties
50. Acquired a car
51. Won a large amount of money (over $10,000) in a lottery or sweepstakes
52. Significantly improved your financial status
53. Began a new job (part or full time)
54. Increased difficulty with a job
55. Discharged from the military
56. Improved mastery of academic material
57. Significantly improved your course grades
58. Transferred to a new school
59. Began college for first time
60. Encountered increased difficulty with school regulations or facilities
61. Withdrawal from a college or university
62. Completed an assignment for school
63. Returned to school after prolonged absence
64. Graduation from high school or junior college
65. Applied to graduate or professional school
66. Decided on a major or career
67. Increased demands from academic coursework
68. Increased problem with academic performance (coursework, grades, GRE's etc.)
69. Accepted into graduate or professional school
70. Moved out of parents' home
71. Moved back into parents' home after living away
72. Change of residence
73. Serious conflict with roommate
74. Improved living conditions (e.g., housing, roommate)
75. Difficulty with landlord/landlady
76. Moved to a new city
77. Improved physical appearance
78. Physical appearance became worse or much worse
79. Physical health became worse or much worse (due to illness or accident)
80. Began or increased use of illicit drugs
81. Improved your physical health
82. Hospitalization of self
83. Improved your personal health/habits
84. Worsening of personal health/habits
85. Did not experience fatigue
86. Decreased use of illicit drugs
87. Female: Possibility of an unwanted pregnancy
    Male: Possibility of girlfriend/wife's unwanted pregnancy
88. Female: Had an abortion
    Male: Girlfriend/wife had an abortion
89. Involvement in accident
90. Began counseling or psychotherapy
91. Began volunteer work
92. Received recognition or award for achievement
93. Victim of a crime
94. Problem with the law (arrested, detained, etc.)
95. Acquired a pet
96. Major change in or renewed dedication to philosophy of life
97. Selected for a leadership position in an organization
98. Loss of a pet through death or runaway
99. Traveled to a new and interesting place
100. Increase in amount of leisure time
101. Decreased involvement with hobby or task
102. Joined a social organization
103. Won an award at an international athletic competition
104. Increased exposure to cultural or entertainment experiences
105. Accomplished a goal in a hobby or recreational activity
106. Major increase in religious commitment
107. New or increased involvement in hobby or recreational activity
108. Not accepted into a social organization you desired
109. Organization you belong to (club, team, etc.) accomplished an important goal
110. Organization you belong to (club, team, etc.) failed to accomplish an important goal
111. Increased use of alcohol
112. Rejected by all graduate or professional schools you desired to attend
APPENDIX B

SENSE-OF-HUMOUR QUESTIONNAIRE

1. Do you easily recognize a hint like a twinkle or a slight change in emphasis as a mark of humorous intent? (Mp; very easily - very sluggishly, 4-1)

2. Do you feel that most people are more serious and solemn than is good for them? (Ep; not at all - yes indeed, 4-1)

3. Does it ever happen that you share in a hilarious situation only to wonder, afterwards, what was so funny about it? (Mp; very often - very seldom, 1-4)

4. A humorist is typically perceived by others as a person who lacks the courage of his convictions. (Lp; not at all - really true, 4-1)

5. Would it be easy for you to find something comical, witty, or humorous in most situations if you really tried? (Mp; very easy - very difficult, 4-1)

6. I appreciate people who tolerate all kinds of emotional outlets. (Ep; not at all - yes indeed, 1-4)

7. Those telling jokes to make others laugh really do it to assert themselves. (Lp; strongly disagree - strongly agree, 4-1)

8. If you found a situation very comical, and nobody else seemed to be of the same opinion, would it then be easy for you to keep your face straight? (Ep; very easy - very difficult, 4-1)
9. Do you sometimes find yourself laughing in situations where laughter is quite out of place?
   (Ep; practically never - very often, 1-4)

10. Persons who are always out to be funny are really irresponsible types not to be relied upon.
    (Lp; strongly agree - strongly disagree, 1-4)

11. If you had an unrestrained fit of laughing, would you later suffer from misgivings in case others think that you were a bit of an exhibitionist?
    (Ep; not at all - very much, 4-1)

12. Would you say that you have much cause for amusement during an ordinary day? (Mp; very much - very little, 4-1)

13. Do you feel that you make mistakes in what kind of behavior is emotionally fitting in a particular situation? (Ep; very frequently - practically never, 4-1)

14. Even if they look different, humorous and dejected people have many common traits. (Lp; strongly disagree - strongly agree, 4-1)

15. Do you think that you are slow at perceiving humorous points? (Mp; very slow - very quick, 1-4)

16. Humorists irritate me because they so blatantly revel in getting others to laugh. (Lp; strongly disagree - strongly agree, 4-1)

17. When I engage in discussions where one person pokes fun at other peoples' arguments, I get the impression he is just trying to cover up his own ignorance. (Lp; not at all - yes indeed, 4-1)
18. How often do you miss the comical point in a situation where others catch on? (Mp; very often - practically never, 1-4)

19. It is my impression that those who try to be funny really do it to hide their lack of self confidence. (Lp; not at all - yes indeed, 4-1)

20. Do you feel that humorists open your eyes to aspects of life you seldom think about? (Mp; practically never - very often, 1-4)

21. Do you consider yourself to be of an impulsive nature? (Ep; not at all - yes indeed, 1-4)
APPENDIX C

COPING HUMOUR SCALE

1. I often lose my sense of humour when I'm having problems.\textsuperscript{a}

2. I have often found that my problems have been greatly reduced when I tried to find something funny in them.

3. I usually look for something comical to say when I am in tense situations.

4. I must admit my life would probably be easier if I had more of a sense of humour.\textsuperscript{a}

5. I have often felt that if I am in a situation where I have to either cry or laugh, it's better to laugh.

6. I can usually find something to laugh or joke about even in trying situations.

7. It has been my experience that humour is often a very effective way of coping with problems.
APPENDIX D

PSS-Fr and PSS-Fa SCALES

Directions: The statements which follow refer to feelings and experiences which occur to most people at one time or another in their relationships with friends. For each statement there are three possible answers: Yes, No, Don't know. Please circle the answer you choose for each item.

1. My friends give me the moral support I need.
   Yes No Don't know

2. Most other people are closer to their friends than I am.
   Yes No Don't know

   Yes No Don't know

4. Certain friends come to me when they have problems or need advice.
   Yes No Don't know

5. I rely on my friends for emotional support.
   Yes No Don't know

6. If I felt that one or more of my friends were upset with me, I'd just keep it to myself.
   Yes No Don't know

7. I feel that I'm on the fringe in my circle of friends.
   Yes No Don't know

8. My friends and I are very open about what we think about things.
   Yes No Don't know

9. There is a friend I could go to if I were just feeling down, without feeling funny about it later.
   Yes No Don't know
Yes No Don't know 10. My friends are sensitive to my personal needs.

Yes No Don't know 11. My friends come to me for emotional support.

Yes No Don't know 12. My friends are good at helping me solve problems.

Yes No Don't know 13. I have a deep sharing relationship with a number of friends.

Yes No Don't know 14. My friends get good ideas about how to do things or make things from me.

Yes No Don't know 15. When I confide in friends, it makes me feel uncomfortable.

Yes No Don't know 16. My friends seek me out for companionship.

Yes No Don't know 17. I think that my friends feel that I'm good at helping them solve problems.

Yes No Don't know 18. I don't have a relationship with a friend that is as intimate as other people's relationships with friends.

Yes No Don't know 19. I've recently gotten a good idea about how to do something from a friend.

Yes No Don't know 20. I wish my friends were much different.
Directions: The statements which follow refer to feelings and experiences which occur to most people at one time or another in their relationships with their families. For each statement there are three possible answers: Yes, No, Don't know. Please circle the answer you choose for each item.

Yes No Don't know 1. My family gives me the moral support I need.

Yes No Don't know 2. I get good ideas about how to do things or makes things from my family.

Yes No Don't know 3. Most other people are closer to their family than I am.

Yes No Don't know 4. When I confide in the members of my family who are closest to me, I get the idea that it makes them uncomfortable.

Yes No Don't know 5. My family enjoys hearing about what I think.

Yes No Don't know 6. Members of my family share many of my interests.

Yes No Don't know 7. Certain members of my family come to me when they have problems or need advice.

Yes No Don't know 8. I rely on my family for emotional support.
<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Don't know</th>
<th>9. There is a member of my family I could go to if I were just feeling down, without feeling funny about it later.</th>
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<tr>
<td>Yes</td>
<td>No</td>
<td>Don't know</td>
<td>10. My family and I are very open about what we think about things.</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Don't know</td>
<td>11. My family is sensitive to my personal needs.</td>
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<tr>
<td>Yes</td>
<td>No</td>
<td>Don't know</td>
<td>12. Members of my family come to me for emotional support.</td>
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<tr>
<td>Yes</td>
<td>No</td>
<td>Don't know</td>
<td>13. Members of my family are good at helping me solve problems.</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Don't know</td>
<td>14. I have a deep sharing relationship with a number of members of my family.</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Don't know</td>
<td>15. Members of my family get good ideas about how to do things or make things from me.</td>
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<tr>
<td>Yes</td>
<td>No</td>
<td>Don't know</td>
<td>16. When I confide in members of my family, it makes me uncomfortable.</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Don't know</td>
<td>17. Members of my family seek me out for companionship.</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Don't know</td>
<td>18. I think that my family feels that I'm good at helping them solve problems.</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Don't know</td>
<td>19. I don't have a relationship with a member of my family that is as close as other peoples' relationships with family members.</td>
</tr>
</tbody>
</table>
Yes  No  Don't know  20. I wish my family were much different.
APPENDIX E

BECK INVENTORY

1. 0 I do not feel sad.
   1 I feel sad.
   2 I am sad all the time and I can't snap out of it.
   3 I am so sad or unhappy that I can't stand it.

2. 0 I am not particularly discouraged about the future.
   1 I feel discouraged about the future.
   2 I feel I have nothing to look forward to.
   3 I feel that the future is hopeless and that things cannot improve.

3. 0 I do not feel like a failure.
   1 I feel I have failed more than the average person.
   2 As I look back on my life all I can see is a lot of failures.
   3 I feel I am a complete failure as a person.

4. 0 I get as much satisfaction out of things as I used to.
   1 I don't enjoy things the way I used to.
   2 I don't get real satisfaction out of anything anymore.
   3 I am dissatisfied or bored with everything.

5. 0 I don't feel particularly guilty.
   1 I feel guilty a good part of the time.
   2 I feel quite guilty most of the time.
   3 I feel guilty all of the time.

6. 0 I don't feel I am being punished.
   1 I feel I may be punished.
   2 I expect to be punished.
   3 I feel I am being punished.
7. 0 I don't feel disappointed in myself.
    1 I am disappointed in myself.
    2 I am disgusted with myself.
    3 I hate myself.

8. 0 I don't feel I am any worse than anybody else.
    1 I am critical of myself for my weaknesses or mistakes.
    2 I blame myself all the time for my faults.
    3 I blame myself for everything bad that happens.

9. 0 I don't have any thoughts of killing myself.
    1 I have thoughts of killing myself, but I would not carry them out.
    2 I would like to kill myself.
    3 I would kill myself if I had the chance.

10. 0 I don't cry any more than usual.
    1 I cry more now than I used to.
    2 I cry all the time now.
    3 I used to be able to cry, but now I can't cry even though I want to.

11. 0 I am no more irritated now than I ever was.
    1 I get annoyed or irritated more easily than I used to.
    2 I feel irritated all the time now.
    3 I don't get irritated at all by the things that used to irritate me.

12. 0 I have not lost interest in other people.
    1 I am less interested in other people than I used to be.
    2 I have lost most of my interest in other people.
    3 I have lost all of my interest in other people.
13. 0 I make decisions about as well as I ever could.
1 I put off making decisions more than I used to.
2 I have greater difficulty in making decisions than before.
3 I can't make decisions at all anymore.
14. 0 I don't feel I look any worse than I used to.
1 I am worried that I am looking old or unattractive.
2 I feel that there are permanent changes in my appearance that make me look unattractive.
3 I believe that I look ugly.
15. 0 I can work about as well as before.
1 It takes an extra effort to get started at doing something.
2 I have to push myself very hard to do anything.
3 I can't do any work at all.
16. 0 I can sleep as well as usual.
1 I don't sleep as well as I used to.
2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
3 I wake up several hours earlier than I used to and cannot get back to sleep.
17. 0 I don't get more tired than usual.
1 I get tired more easily than I used to.
2 I get tired from doing almost anything.
3 I am too tired to do anything.
18. 0 My appetite is no worse than usual.
   1 My appetite is not as good as it used to be.
   2 My appetite is much worse now.
   3 I have no appetite at all anymore.

19. 0 I haven't lost much weight, if any lately.
   1 I have lost more than 5 pounds.
   2 I have lost more than 10 pounds.
   3 I have lost more than 15 pounds.
   I am purposely trying to lose weight by eating less.
   Y _____ N ____

20. 0 I am no more worried about my health than usual.
   1 I am worried about physical problems such as aches
       and pains; or upset stomach, or constipation.
   2 I am very worried about physical problems and it's
       hard to think of much else.
   3 I am completely absorbed in what I feel.

21. 0 I have not noticed any recent change in my interest
    in sex.
    1 I am less interested in sex than I used to be.
    2 I am much less interested in sex now.
    3 I have lost interest in sex completely.
APPENDIX F

Participant Letter

Dear Participant:

Recently there has been much research dedicated toward greater understanding of the impact stress can and does have on individuals. We know that different individuals sometimes respond to the same kind or amount of stress in different ways. We also know that the same person may respond to the same stressor differently at two points in time. It is just these individual differences that the present study is interested in.

The following questionnaires are part of a Master's Thesis undertaken at California State University, San Bernardino. The questions that follow deal with events that may have caused you some stress in the past twelve months, some ways in which you might have tried to deal with this stress, your perception of the support available to you through family and friends, and your general state of well-being over the past week.

There are no "right" or "wrong" answers to any of the questions; moreover, your responses will be kept strictly confidential and anonymous. To that end, stating your name on the questionnaire will be optional. In order to ensure that your participation in this study is on a completely voluntary basis, you may withdraw as a participant at any time during the administration of the questionnaire.

A brief, written summary of the results of the present study will be provided the department head of your university who will make such results available to all interested participants. For further information I may be reached at the following address:

Billie Y. Orr
Department of Psychology
CSUSB
5500 University Parkway
San Bernardino, CA 92407

Thank you for your interest and participation.

Sincerely,

Billie Y. Orr
APPENDIX G

CONSENT FORM

The university administration desires to protect the rights of any person participating in research projects that are conducted through California State University, San Bernardino. For that purpose, we wish to remind you that your participation is strictly voluntary. You will be asked to respond to a series of questions; some of these questions concern whether or not certain events have occurred in your life in the past twelve months and the effect such events had on you, other questions deal with possible ways you might have tried to cope with stress, your perception of support available to you through friends and family, and, your general state of well-being over the past week.

Should you decide to participate, your privacy will be respected throughout all phases of this research. Results will be reported in terms of group data. The specific information that you provide about yourself will not appear in print or be discussed publicly.

I have read and understand the above information and would like to participate in this study.

Name: ___________________________ Date: _____________

Signature: ________________________

Thank you so much for your time and interest. We sincerely appreciate your help.
APPENDIX H
PERSONAL INFORMATION

Remember: Listing your name is optional, and all of this information is strictly confidential.

Name: ________________________________
Address: ________________________________

Age: ___ Gender: Female ___ Male ___ Ethnicity: ___
Freshman ___ Sophomore ___ Junior ___ Senior ___
Other (specify) __________

Declared major or major area of study: ________________

Living situation: Dorms ___ With parents ___ With Spouse ___
Off campus alone ___ Off campus with roommate(s) ___
Other (specify) __________

Comments: Please feel free to respond to the questionnaire
________________________________________
________________________________________
________________________________________
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________________________________________
________________________________________
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________________________________________

REFERENCES


