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Differences in Perceived Stress and Coping Strategies Between Ukrainian and US College Students

Malvina Salash
Brigham Young University - Provo

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Malvina Salash

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Dawson Hedges, Chair
Bruce L. Brown
Patrick Steffen

Department of Psychology

Brigham Young University

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ABSTRACT

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Malvina Salash
Department of Psychology, BYU
Master of Science

Social support is associated with mental and physical health. It is important to consider culture in order to understand stress responses to everyday hassles and use of coping strategies. The current investigation hypothesized that (1) Ukrainian college students representative of a collectivistic culture would have lower levels of perceived stress than would US college students representative of a highly individualized culture, (2) Ukrainian college students would have evidence of greater social support compared to US college students, and (3) social support would mitigate differences in perceived stress between the two cultures. Based on 61 US participants recruited from Brigham Young University and 100 Ukrainian participants recruited from Sumy State University in Ukraine and using linear regression to predict college students perceived stress level from culture and MANOVA to investigate the differences in social support between two cultures, American and Ukrainian respondents scored similarly on measure of perceived stress. Moreover, American respondents reported using more social support for coping with stress than did Ukrainian respondents. These results challenge the hypothesis that collectivistic cultures use more coping strategies based on social support than do individualistic cultures and suggest that certain groups within an individualistic culture may cope with stress with social support.

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Widely studied (Hobfoll, 1998), stress exposure is a common and natural condition (Maughan, 1986). However, stress and coping strategies are often easier to study than to define (Wong, Wong, & Scott, 2006). Nevertheless, stress can be defined as "circumstances that threaten or are perceived to threaten one's well-being and that thereby tax one's coping abilities" (Weiten, 2004, p.522). Similarly, stress has been defined as one of the "external and/or internal demands that are appraised as taxing or exiting the resources of the person" (Lazasur & Folkman, 1984, p.52).

Stressful events reach not only soldiers in combat but students, elementary-school teachers, mothers, bus drivers, and psychologists (Comer, 2007). Stress does not always come unexpectedly, like in a natural disaster or a terrorist attack; there are times when stressful events occur when expected, like graduation or marriage. Stress exposure can occur in every-day efforts to face daily pressures, achieve goals, deal with frustrations, connect with others, and hold multiple roles. People can be stressed worrying about their roles as children, friends, students, workers, parents, and partners or spouses (Monat, Lazarus, & Reevy 2007).

There are different degrees of stress exposure (Weiten, 2004), and, further, stress can be good or bad. Prolonged or high levels of stress - or distress - can be overwhelming and damage mental and physical health (Weiten, 2004; Whitman, Spendlove, & Clark, 1984). An individual experiences stress when an event is perceived as threatening, harmful, or challenging (Lazarus, 1966). Most commonly, stress is perceived as something undesirable and worthy of reduction or

elimination (Maughan, 1986). Coping successfully with stress is important because it is not always possible to completely remove stress from daily life.

A stressor and a stress response are two vital components of stress (Comer, 2007). Stressors are events that generate demands and may include daily hassles (e.g., waiting in line), turning-point events (e.g., graduation from college), long-term problems (e.g., chronic illness), and traumatic events (e.g., death of a loved one) (Comer, 2007). A stress response is a person's reaction to the demands the stressor creates. The stress response is greatly influenced by the way the person appraises both the event itself as well as the available resources to cope effectively (Comer, 2007). Overcoming a stressor appears to be more positive when an event is appraised as challenging. In contrast, a sense of potential loss and the need to avoid stressor are more apparent when the stressor is appraised as threatening or harmful (Whitman, Spendlove, & Clark, 1984).

Mild stress can result from daily hassles and turning-point events, whereas long-term problems and traumatic events can result in severe stress (Oxington, 2005). There is a growing conviction that it is important to understand reactions to everyday hassles and mundane irritants because they often negatively affect physical and mental health (Comer, 2007; Kohn, Lafreniere, & Gurevich, 1991). For example, some individuals who experience a number of stressful events in their lives are particularly vulnerable to the onset of anxiety, depression, sexual dysfunction, schizophrenia, and other psychological problems (Comer, 2007).

Stress Exposure in College Students

Students and especially college students are particularly prone and vulnerable to stress (Saipanish, 2003; Shashidhar, 2005). College students are in a time of transition from living with their parents to living on their own. A set of novel responsibilities and roles comes into

their lives as the students make a move to a new stage. This is the time to test and establish coping strategies. College students continuously face stressful events such as periodic tests or exams, papers, projects (Wolf, Randall, Von Almen, & Tynes, 1991; Wright, 1964), falling behind the reading schedule, large amount of homework assignments (Kohn & Frazer, 1986), and lack of time (Saipanish, 2003).

Stress is a necessary part of the learning process for college students (Linn & Zeppa, 1984). A moderate degree of stress is normal, and it can motivate students to do their best, to study harder, and to grow (Shashidhar, 2005; Yerkes & Dodson, 1908). It can enhance learning ability (Kaplan & Sadock, 2000). On the other hand, low and high levels of stress negatively affect students' academic achievements (Saipanish, 2003; Yerkes & Dodson, 1908). Prolonged exposure to high levels of stress results in cognitive fatigue (Cohen, 1980) and may cause psychological and physical problems (Shashidhar, 2005, p.85). Studies suggest that uncontrollable stress is associated with anxiety and depression (Shapiro, Shapiro, & Schwartz, 2000), smoking, drinking, drug abuse (Newbury-Birch, White, & Kamali, 2000), increased aggression (Cohen, 1980), and suicidal thoughts (Hirsch & Ellis, 1996).

Coping Strategies

During times of stress, people use various coping strategies according to situational demands. Coping has been defined as cognitive and behavioral efforts "used to manage the internal and external demands of situations that are appraised as stressful" (Folkman, & Moskowitz, 2004, p. 745). In other words, coping is a defense mechanism that is designed to reduce tension and maintain emotional stability (Folkman & Lazarus, 1980). Research suggests that when encountering stressful events, coping is strongly connected to cognitive appraisal of

the situation (Folkman, Lazarus, Gruen, & DeLongis, 1986) and the regulation of emotions, such as distress (Folkman & Moskowitz, 2004).

Coping strategies vary from situation to situation depending on the placed demands and availability of resources. Coping has been divided into two main strategies that have been used extensively in coping research. The first strategy is maintaining emotional equilibrium (emotion-focused coping) and adjusting the relationship between the person and the environment (Folkman & Lazarus, 1980). Emotion-focused forms of coping include the following strategies: looking for social support, escape-avoidance, trying to see humor in the situation, fatalism, fantasy, positive reappraisal, and detachment (Folkman & Lazarus, 1980; Folkman, Lazarus, Gruen, & DeLongis, 1986). The second main category is problem-focused forms of coping that assertively endeavor to modify the environment, deliberate efforts to solve the problem, seeking information, and trying to get help. Research suggests that selected coping strategies affect psychological, physical, and social welfare (Folkman & Moskowitz, 2004). Problem-focused coping strategy in medical students is negatively related to distress while the emotion-focused coping is positively focused on distress (Vitaliano, Maiuro, Russo, & Mitchell, 1989). Folkman and Moskowitz (2004) have found that seeking social support, instrumental support or tangible assistance, and problem-focused strategies of coping are associated with mixed outcomes on mental health.

Social support. During times of stress, it is important to have someone who can provide help or emotional support (Sherbourne & Stewart, 1991). Social relationships can be conceptualized as the number of social relationships, the frequency of contact with the people within a network, the number of roles a person holds, the density, durability, reciprocity, and sex composition of the network, social support, social regulation and control, and social demands

and conflicts (House, Landis, & Umberson, 1988). Social support is defined as a social network provision of psychological and material resources intended to benefit an individual's ability to cope with stress (Cohen, 2004; House, Landis, & Umberson, 1988). House, Landis, and Umberson (1988) suggested that networks that are small in size, have strong ties, high density, and low dispersion play an important role in maintaining one's identity and have a positive effect on health. In short, the word support refers to "positive, potentially health-promoting or stress-buffering, aspects of relationships" (House, Landis, & Umberson, 1988, p. 302).

Social support can be divided into the following categories: emotional support (provision of trust, empathy, and caring), instrumental support (e.g., loaning money), informational support (advice), and appraisal support (evaluative feedback) (Tardy, 1985). Social support is valuable to people within a social network. It offers to people positive experiences and socially rewarded roles in the community (Cohen & Wills, 1985). Moreover, people live longer if they are married, have close relationships with family members, friends, or neighbors, and belong to religious or social groups (Berkman, 1995).

Personal belief about social support may affect health and well-being (Schwarzer & Leppin, 1991). People who receive psychological and material support are in better health than those that have less supportive social contacts (Cohen, 2004; Cohen, & Janicki-Deverts, 2009). Low levels of social support have also been linked to greater mortality and negative mental-health outcomes, such as anxiety and depression (DeLongis, Folkman, & Lazarus, 1988). Several studies show that social support, and other coping resources have buffering effects against stress (Cohen & Wills, 1985; Treharne, Lyons, & Tupling, 2001). Buffering effects assume that supportive social interactions help to distract individuals from worrying about problems, or by facilitating positive affective moods (Cohen & Wills, 1985).

Differences in social support as well as in coping strategies can be seen on an individual level as well as at the cultural level. In times of stress, South-East Asian college students are more likely to look for support from other individuals than are Australian students (Kuo, 2010; Neill & Proeve, 2000). Tata and Leong (1994) found that individualism was a significant predictor of attitudes toward seeking professional psychological help, while collectivism did not show a similar effect. Another study comparing American and Japanese attitudes toward mental-health services found that independent, expressive individuals who prefer to be unique have more positive attitudes toward professional psychological help regardless of culture (Yamawaki, 2010). Chun emphasizes that to understand "the complexity of human mind and behavior" it is necessary to study people in "their full social context" (2006, p. 49).

Cross-Cultural Research

Culture is one of the most important and overlooked contexts in research that affects every aspect of stress and coping (Chun, Moos, & Crinkite, 2006). It is a fundamental aspect that influences individuals' behavior, personality, lifestyle, worldview (Wong, Wong, & Scott, 2006), cognitive appraisal, coping, health, and well-being (Chun, Moos, & Cronkite, 2006). Culture can be identified as "widely shared ideas, values, formations, and uses of categories, assumptions about life, and goal-directed activities that become unconsciously or subconsciously accepted as right and correct by people who identify themselves as members of society" (Brislin as cited in Wong, Wong, &Scott, 2006, p.2).

Individualism and collectivism are the most researched dimensions in cross-cultural psychology (Hofstede, 1980). Attitudes, values, and behaviors vary between individualistic and collectivistic cultures (Hofstede, 1980). Individualism puts emphasis on individual rights, the self as a central unit of society, immediate family, personal independence, and self-fulfillment;

collectivism, on the other hand, emphasizes responsibility to the in-group, interdependence on other people within the group, and accomplishment of social roles (Lam & Zane, 2004). Cultures such as those in Asia, Africa, South America, and the Pacific islands region are oriented toward collectivism (Singelis, 1994). In contrast, most of northern and western regions of Europe, North America, and Australia are the cultures oriented toward individualism (Singelis, 1994).

The forms of distress that people experience and the ways of coping differ from one culture to another (Gray, 2006). If a culture emphasizes oneness between people, coping strategies that only focus on individual may not be effective (Yeh, Arora, & Wu, 2006). Studies show that individuals from collectivistic cultures are less likely to seek social support from professionals or strangers (Tata, 1994; Yeh, Arora, & Wu, 2006). They find support in their groups.

Wong points out that it "remains an interesting question whether collective coping is more advantageous than problem-focused coping in stressful situations that are beyond the coping capacity of any individual" (Wong, Wong, & Scott, 2006, p.14). Trying to generalize American findings on stress and coping introduces ethnocentric bias into research (Wong, Wong, & Scott, 2006, p.14).

The coping literature emphasizes the need to consider cultural norms and patterns in coping (Lam & Zane, 2004). Constructs that are relevant in individualistic culture may not be relevant in collectivistic culture (Tweed & Delongis, 2006, p. 207). Different types of creative coping approaches to cross-cultural research are needed because mainstream instruments developed in North America tend to neglect some important coping constructs (Tweed & Delongis, 2006, p. 207). For example, many coping questionnaires focus on problem-focused

and emotion-focused coping behaviors and not on culturally specific strategies (Yeh, Arora, & Wu, 2006). The researchers that focus on relation-focused coping that is used by collectivistic cultures (Lyons, Mickelson, Sullivan, & Coyne 1998) are more likely to detect the culture specific differences in coping.

Collectivistic cultures. Collectivism is a characteristic of societies in which obligations to the group and fulfillment of social roles are promoted (Wong, Wong, & Scott, 2006). Group norms, goals, and needs are emphasized over personal norms, goals, and needs (Triandis, 1995). Collectivistic cultures promote an interdependent self-construal that defines self in relation to family, community, and friends with overlapping interpersonal boundaries (Chun, Moos, & Cronkite, 2006). The individuals with the collectivistic worldview are more likely to control their emotions, thoughts, and behaviors, factors important in how one chooses to cope with stress (Wong, Wong, & Scott, 2006).

Collective coping, which is aimed at primary control on behalf of the in-group, is more likely to be used by individuals with the interdependent self-construal (Wong & Ujimoto, 1998). Social support and group coping are the components of collective coping (Chun, Moos, & Cronkite, 2006). Collective coping is more than just social support (Wong, 1993). In collective coping person's problem becomes a problem of the group, which is different from providing emotional or instrumental support as a third party that is not directly affected by the stressor (Chun, Moos, & Cronkite, 2006). Family, friends, and neighbors all work together to alleviate stress of an individual.

Family has an important role in collectivistic cultures; it serves as a vital supportive and caring function for the members within (Yeh & Wang, 2000) and buffers individuals against stressful events (Pierce, Sarason, & Sarason, 1992). Asian Americans tend to use coping sources

and practices that emphasize talking with familial and social relations rather than professionals such as counselors (Yeh & Wang, 2000). Seeking support from the family has also been found to be an important coping strategy for Mexican Americans who are undergoing stressful situations (Kobus & Reyes, 2000). Because of the fundamental sense of interconnection, it follows that seeking support, advice, and guidance from people who have experienced or are experiencing similar problems may be an especially effective coping strategy (Yeh, Arora, & Wu, 2006).

Individualistic cultures. In contrast to collectivism, individualism is characterized by an independent self-construal that focuses on individual rights and the self as central unit of society. Individualistic culture encourages independence and focus on personal goals and preferences (Yeh, Arora, & Wu, 2006). Individualistic cultures encourage materialistic success, individual autonomy, concern for oneself and the immediate family, self-efficacy, and competition (Wong, Wong, & Scott, 2006). Societies with independent self-construal have loose ties between individuals, meaning that everyone is expected to look after himself or herself and his or her immediate family (Hofstede, 1980).

Although Wong suggests that individualistic culture may lead to "dehumanization and the weakening of human bonding" (Wong, 2006, p.9), individualism is not necessarily viewed as negative. For example, strongly individualistic North-American culture takes care of the privacy of American people and respect the right to privacy of other people (Shafiro, 2003).

Coping strategies that confront and modify external environment are expected to be more common in individualistic cultures (Chun, Moos, & Cronkite, 2006; Wong, Wong, & Scott, 2006). Individualistic cultures focus their attention on instrumental coping, such as problem-solving strategies or changing the stressful situation (Wong, 2006). Coping research has been

biased towards problem-focused coping (Bandura, 1982), a concept highly valued and emphasized in individualistic cultures (Yeh, Arora, & Wu, 2006).

Limitations of Previous Studies

There have been growing efforts to study cross-cultural differences in stress and coping. It has been proposed to develop a cross-cultural psychology of stress in view of the fact that every aspect of stress process is affected by culture (Wong, Wong, & Scott, 2006). Coping research has been criticized for basing much of its work on theories using an individualistic perspective or research that focuses primarily on White Americans (Bjorck, Cuthbertson, Thurnam, & Lee, 2001). Wong has suggested that we need to move beyond trying to apply theories and findings of Euro-American research to other cultural context and explore other coping strategies in different cultures (Wong, Wong, & Scott, 2006; Wong, 1993). This can be done by developing methodology of theoretical models and involving research partners form other cultures and native psychologists (Wong & Ujimoto, 1998).

Part of the problem of trying to generalize American findings to other cultures comes from the assumption that approach coping strategies are associated with better physical and psychological outcomes, whereas avoidance coping strategies are associated with less life satisfaction and more depression (Chun, Moos, & Cronkite, 2006). Research shows that Asian American students are more likely to use problem avoidance and social withdrawal (Chang, 2001). However, Chang (2001) did not find any negative outcomes in Asian American college students. Lower psychological distress is linked to passive coping strategies in more collectivistic Japanese-American women born in Japan (Yoshihama, 2002).

Active coping may be going on at the group level even though it might seem that an individual is using a seemingly passive and avoidant coping (Chun, Moos, & Cronkite, 2006).

Chun, Moos, and Cronkite (2006) also point out that individuals form collectivistic cultures may take a more avoidant coping strategy for their own personal problems, but a more approach coping strategy for in-group members' problems. The avoidance strategy is defined as avoiding or denying dealing with the stressor; therefore, the strategies used by collectivistic cultures cannot be conceptualized as seeking social support and problem solving (Chun, Moos, & Cronkite, 2006).

Most cross-cultural research on stress and coping has been done on Asians representing collectivistic cultures and Americans representing individualistic cultures. The problem with studying some collectivistic cultures and not others is that there are variations within the collectivistic cultures. Countries of the former Soviet Union have been mostly overlooked by psychologists (Shafiro, Himelein, & Best, 2003), even though a country like Ukraine has much to offer in terms of better understanding of stress and coping. Compared to the United States, Ukraine has a more collectivistic culture (Prykarpatska, 2008).

In fact, Ukrainian and Russian languages did not have an equivalent word to the English word "privacy" until not so long ago (Prykarpatska, 2008). Family, children, care of aged parents, and long-term friendship bonds are the most important values in Ukrainian culture (Prykarpatska, 2008). While North-American society maintains greater social distance between friends, Ukrainian society emphasizes that friends should be open and sincere with each other. In collectivistic Ukraine, interpersonal bonds are very close, whereas in individualistic North America social distance is preferred (Prykarpatska, 2008).

To better understand culture-specific aspects of stress and coping, the current study compared stress perception and coping strategies between college students in Ukraine and the United States and evaluated whether differences in coping strategies were associated with stress

perception. In the present study, I tested the following hypotheses. First, Ukrainian college students were predicted to have lower levels of perceived stress than US college students. Second, Ukrainian college students were predicted to have more social support compared to US college students. Third, social support was predicted to mitigate perceived stress.

Method

Participants

The participants were 161 first, second, and third year college students, ranging in age from 16 to 28 years. The sixty one United States students were from Brigham Young University in Provo, Utah. Of the US participants, 32 (52.46%) were male and 29 (47.54%) were female. The 100 Ukrainian students were from Sumy State University in Sumy, Ukraine. Of the Ukrainian participants, 50 (50%) were male and 50 (50%) were female.

The mean age of the US sample was 19.44 years; the mean age of the Ukrainian sample was 18.27 years (Table 1). The educational level of students was approximately equivalent, but the income level of the students was not equivalent. To adjust for the income differences between the two countries I converted raw scores to z scores.

For the US college students, potential participant were recruited by in-class announcements. Dates, times, and locations of the research were announced for students who were interested in participating in this research. After the surveys were completed, a list of participants was emailed to their instructors so that students were able to receive extra credit for participation.

For the Ukrainian college students, potential participants were recruited by in-class announcements by Dr. Ivanova, a professor at Sumy State University who assisted in collecting data. Dates, times, and locations of the research were announced for students who were

Table 1

Demographic Characteristics of Participants

Characteristic	USA		Ukraine	
	n	%	*n*	%
Sex				
Male	32	52.46	50	50.00
Female	29	47.54	50	50.00
Age, mean $\pm$ SD	19.44 $\pm$ 1.61		18.27 $\pm$ 1.93	
Race				
Hawaiian or Other Pacific Islander	1	1.64		
Hispanic or Latino	1	1.64		
White	59	96.72	99	99.00
Greek			1	1.00
Education				
College 1 year	52	85.25	80	80.00
College 2 years	7	11.48	20	20.00
College 3 years	2	3.28		
Marital status				
Dating	36	59.02	55	55.00
Engaged	1	1.64		
Married	2	3.28	2	2.00
Divorced			1	1.00
Widowed			1	1.00
Separated	1	1.64		
Single	20	32.79	38	38.00
Other	1	1.64		

Table 1 (continued)

Characteristic	USA		Ukraine	
	n	%	*n*	%
Religion				
Protestant Christian			2	2.00
Ukrainian Orthodox			84	84.00
Latter-day Saint	61	100	3	3.00
Roman Catholic			4	4.00
Evangelical Christian			2	2.00
Other			5	5.00

Note. Ukrainian sample consisted of 92 Ukrainians and 7 subjects from other Slavic groups.

interested in participating in this research. After the surveys were completed, a list of

participants was emailed to their instructors so that students were able to receive extra credit for

participation.

General Procedure

The Brigham Young University Institutional Review Board approved the study. Since

Ukrainian Universities do not have Institutional Review Boards, a letter of cooperation was

obtained from Sumy State University. All participants were recruited from undergraduate

classes in a middle of a semester. The participants in both groups were advised about the

voluntary nature of their participation and were provided with informed consent forms. After

providing informed consent, the participants received the questionnaires. The participants'

names, such as on the informed consent forms, were separated from the questionnaires at the

time it was returned.

Hypothesis 1

First, I examined perceived stress as well as identified stressors that had affected undergraduate college students during the previous semester in the Ukrainian and US samples. I predicted that Ukrainian college students would have lower levels of perceived stress than US college students.

Materials

The set of questionnaires used to evaluate hypothesis 1 consisted of a demographic questionnaire and the self-reported measures, the Perceived Stress Scale - 14 (PSS; Cohen, 1983) and the Undergraduate Stress Questionnaire (USQ; Crandall, Preisler, & Aussprung, 1992). The USQ was used in a preliminary analysis to look at the differences in the top four stressors college students reported. The questionnaires were originally written in English; therefore, they were translated by a native Russian speaker who is also fluent in English from English to Russian for Ukrainian participants. The questionnaires were then back-translated from Russian to English by another person fluent in both languages and knowledgeable about both cultures. We translated the questionnaires into Russian because people in eastern Ukraine predominantly speak Russian. A third person fluent in English compared the English translation with original version of the questionnaire for consistency. In addition, five people fluent in both English and Russian completed both the original questionnaire and the Russian version. We compared the scores from the two versions. Russian and English versions did not differ significantly in scores for Perceived Stress Scale - 14, Brief COPE, Collectivistic Coping Scale, and UCLA Loneliness Scale, $t(6) = -0.21$, $p = 0.842$, $t(6) = -0.08$, $p = 0.941$, $t(6) = -0.12$, $p = 0.908$, and $t(6) = 0.85$, $p = 0.426$ respectively.

Demographic questionnaire. Demographic information was collected, such as age, gender, country of birth, race/ethnicity, marital/relationship status, academic major, education completed, employment status, religiosity, and parents' level of education and income (Appendix A).

Perceived Stress Scale -14. The PSS is a validated 14-item self-report measure designed to assess the degree to which life situations are self-appraised as stressful (Cohen et al., 1983). The PSS is one of the most widely used psychological instruments to measure nonspecific perceived stress (Cohen et al., 1983). Participants were asked to indicate their feelings and thoughts during the last month by placing an "X" over the circle representing how often they felt or thought a certain way on 5-point Likert-type scale, ranging from 0 (Never) to 4 (Very Often). Russian PSS translation by Dr. Martin Egan was used for Ukrainian participants (Appendix B).

Undergraduate Stress Questionnaire. The Undergraduate Stress Questionnaire is a validated 82-item life events checklist designed to measure stress among undergraduate students (Crandall, Preisler, & Aussprung, 1992). Two items were deleted from the questionnaire. The USQ has been rated by students as the most complete and accurate life event questionnaire (Crandall, Preisler, & Aussprung, 1992) (Appendix C).

Statistical Analysis

Demographic questionnaire data were analyzed using descriptive statistics. To assess whether culture significantly predicted college students perceived stress level, a linear regression analysis was performed to predict college students perceived stress level from culture (dummy-coded 0 = US, 1 = Ukraine), controlling for age, gender, and socioeconomic status. To estimate socioeconomic status, I included into the regression analysis annual household income, participants' education, and parents' education. The stressors that the participants reported as

encountered over the past 3 months were coded as academic, not academic, and in between. An independent sample *t* test was performed to test for cultural differences in the mean number of stressors in each category.

Results

The overall regression model with country as an independent variable and perceived stress as a dependent variable age, gender, and socioeconomic status as control variables was statistically significant $F(7, 90) = 2.49, p = 0.022$. Contrary to my prediction, there was no significant cultural difference in perceived stress ($R^2 = 0.16$). Only 16 % of the variance in perceived stress could be explained by income and mother's education. However, income level was associated ($B = -0.915, p = 0.003$) with decreased perceived stress in the fully adjusted model, but none of the other control variables were associated with perceived stress, although there was some support for mother's education to be associated with decreased perceived stress ($B = -2.53, p = 0.054$) (Table 2).

Table 2

Summary of the Overall Regression Analysis for Perceived Stress and Culture

Variable	*B*	*SE*	*p*	95% CI	
Country	-2.753	2.420	0.258	-7.561272	2.054592
Income	-0.915	0.299	0.003	-1.508739	-0.3204222
Mother's Education	-2.53	1.291	0.054	-5.090616	0.0399307
Age	-0.524	0.604	0.388	-1.72428	0.6766329
Sex	1.424	1.690	0.402	-1.932741	4.780493
Education	2.465	2.170	0.259	-1.845918	6.775725
Father's Education	2.436	1.628	0.138	-.7987549	5.67019

Note. CI = confidence interval

Table 3

Summary of the Regression Analysis for Perceived Stress in the US Sample

Variable	*B*	*SE*	*p*	95% CI	
Mother's Education	-3.952	1.707	0.026	-7.398866	-.5048471
Income	-0.798	0.469	0.096	-1.744552	0.1481451
Age	0.683	1.070	0.527	-1.478023	2.843139
Sex	3.400	2.809	0.234	-2.276811	9.067707
Education	0.976	3.300	0.769	-5.689076	7.640656
Father's Education	1.953	2.539	0.446	-3.173572	7.079775

Note. CI = confidence interval

In the US sample, perceived stress was inversely associated with maternal education ($B = -3.952$, $p = 0.026$, $F (6, 41) = 2.02$, $p = 0.085$); however, there was no association in the Ukrainian sample (Table 3). In the Ukrainian sample, age was inversely associated with decreased perceived stress ($B = -1.322$, $p = 0.034$, $F (6, 5) = 2.02$, $p = 0.081$). In addition, higher income was associated with decreased perceived stress in the Ukrainian sample ($B = -1.54$, $p = 0.007$) (Table 4).

US and Ukrainian participants differed significantly in the mean number of stressors, $t (159) = 8.28$, $p < 0.001$. According to the criteria set out by Cohen (1992), the effect size for this analysis ($d = 1.35$) was large. Specifically, the US college students ($M = 20.97$, $SD = 8.47$) had a mean score that was significantly higher than the score for the Ukrainian students ($M = 11.72$, $SD = 5.69$). Furthermore, there was a significant difference between the US ($M = 8.95$, $SD = 4.93$) and Ukrainian ($M = 5.35$, $SD = 3.55$) participant in the non-academic stressors, $t (159) = 5.37$, $p < 0.001$. The effect size for non-academic stressors ($d = 0.88$) was also large. US students ($M = 8.08$, $SD = 3.19$) reported more academic stressors than Ukrainian students ($M = $

Table 4

Summary of the Regression Analysis for Perceived Stress in the Ukrainian Sample

Variable	B	SE	p	95% CI	
Age	-1.322	0.605	0.034	-2.536123	-0.1072805
Income	-1.054	0.372	0.007	-1.800784	-0.3065197
Mother's Education	-0.101	1.470	0.945	-3.053142	2.850907
Sex	-0.263	2.100	0.901	-4.480314	3.954728
Education	-0.840	2.953	0.777	-6.770724	5.090433
Father's Education	0.419	1.943	0.830	-3.484359	4.322595

Note. CI = confidence interval

Table 5

Cultural Differences in Mean Number of Stressors

Characteristic	USA ($n = 61$)	Ukraine ($n = 100$)
PERCEIVED STRESS	22.74	23.79
Total number of STRESSFUL EVENTS	20.97*	11.72*
Items not related to the college experience	8.95*	5.35*
Items related to college	8.08*	3.83*
Items in between	3.93*	2.54*

Note. *p < .001, ** p < .05

3.83, SD = 2.38), t (159) = 9.64, p < 0.001. The effect size for academic stressors (d = 1.58) was large. Also, US students (M = 3.93, SD = 1.97) reported more in-between stressors than Ukrainian students (M = 2.54, SD = 1.46), t (159) = 5.12, p < 0.001. The effect size for in between stressors (d = 0.84) was large (Table 5).

Overall, the US and Ukrainian students reported the same types of academic, non-academic, and in-between stressors. Ukrainian respondents reported more stress about not

Table 6

Stressful Events by Country and Category

Stressor		USA, % (n = 61)	Ukraine, % (n = 100)	t
Death	N	9.84	9.00	0.17
Had a lot of tests	S	95.08	48.00	6.93*
It's final's week	S	13.11	7.00	1.29
Applying to graduate school	S	0	4.00	-1.58
Victim of a crime	N	1.64	2.00	-0.16
Assignments in all classes due the same day	S	70.49	8.00	10.83*
Breaking up with boy/girlfriend	N	22.95	19.00	0.60
Found out boy/girlfriend cheated on you	N	3.28	7.00	-0.99
Lots of deadlines to meet	N	77.05	12.00	10.93*
Property stolen	N	1.64	2.00	-0.16
You have a hard upcoming week	B	72.13	51.00	2.69**
Went into a test unprepared	S	37.70	51.00	-1.65
Lost something (especially wallet)	N	24.59	6.00	3.50*
Death of a pet	N	0	1.00	-0.78
Did worse than expected on test	S	60.66	57.00	0.45
Had an interview	N	16.39	1.00	3.91*
Had projects, research papers due	S	52.46	1.00	9.92*
Did badly on the test	S	40.98	40.00	0.12
Parents getting divorced	N	0	4.00	-1.58
Dependent on other people	N	24.59	12.00	2.09***
Having roommate conflicts	B	27.87	21.00	0.99
Car/bike broke down, flat tire	N	13.11	3.00	2.50**
Got a traffic ticket	N	4.92	0.00	2.26***
Missed your period and waiting	N	4.92	4.00	0.28

Table 6 (continued)

Stressor		USA, % ($n = 61$)	Ukraine, % ($n = 100$)	t
Thoughts about future	N	80.33	49.00	4.13*
Lack of money	N	39.34	44.00	-0.58
Dealt with incompetence at the Register's Office	N	1.64	1.00	0.35
Thought about unfinished work	B	59.02	19.00	5.66*
No sleep	B	54.10	81.00	-3.78*
Sick, Injury	N	42.62	16.00	3.88*
Had a class presentation	S	14.75	2.00	3.19**
Applying for a job	N	21.31	6.00	2.98**
Fought with boy/girlfriend	N	13.11	26.00	-1.95***
Working while in school	S	36.07	6.00	5.26*
Arguments, conflicts of values with friends	N	21.31	14.00	1.20
Bothered by having no social support of family	N	3.28	5.00	-0.52
Performed poorly at a task	N	19.67	12.00	1.32
Can't finish everything you need to do	N	45.90	29.00	2.19***
Heard bad news	N	32.79	20.00	1.83
Had confrontation with as authority figure	N	6.56	1.00	1.98***
Maintaining a long-distance boy/girlfriend	N	13.11	20.00	-1.12
Crammed for a test	S	62.30	32.00	3.91*
Feel unorganized	N	55.74	27.00	3.78*
Trying to decide on major	S	42.62	6.00	6.27*
Feel isolated	N	22.95	6.00	3.25*
Parents controlling with money	B	1.64	6.00	-1.32
Couldn't find a parking space	B	32.79	1.00	6.49*
Noise disturbed you while trying to study	S	50.82	27.00	3.13**

Table 6 (continued)

Stressor		USA, % (*n* = 61)	Ukraine, % (*n* = 100)	*t*
Someone borrowed something without permission	N	31.31	19.00	0.35
Had to ask for money	B	14.75	9.00	1.12
Ran out of toner while printing	B	9.84	8.00	0.40
Erratic schedule	N	21.31	8.00	2.46**
Can't understand your professor	S	19.67	10.00	1.74
Trying to get into your major or college	S	11.48	2.00	2.58**
Registration for classes	S	26.23	3.00	4.70*
Stayed up late writing a paper	S	49.18	17.00	4.61*
Someone you expected to call did not	N	18.03	15.00	0.50
Someone broke a promise	N	14.75	25.00	-1.55
Can't concentrate	N	49.18	17.00	4.61*
Someone did a "pet peeve" of yours	N	27.87	4.00	4.62*
Living with boy/girlfriend	N	0	4.00	-1.58
Felt need for transportation	N	21.31	11.00	1.79
Bad haircut today	N	3.28	4.00	-0.23
Job requirements changed	N	8.20	0.00	2.97**
No time to eat	B	37.70	20.00	2.50***
Felt some peer pressure	N	26.23	5.00	4.05*
You have a hangover	N	0	14.00	-3.13**
Problems with your computer	B	39.34	18.00	3.06**
Problem getting home from bar when drunk	N	0	2.00	-1.11
Used a fake ID	N	0	0.00	0.0
Someone cut ahead of you in line	N	6.56	13.00	-1.29
Checkbook didn't balance	N	1.64	17.00	-3.07**

Table 6 (continued)

Stressor		USA, % ($n = 61$)	Ukraine, % ($n = 100$)	t
Visit from a relative and entertaining him/her	N	13.11	5.00	1.84
Spoke with a professor	S	24.59	4.00	4.11*
Change of environment (new doctor, dentist, etc.)	N	14.75	1.00	3.63*
Exposed to upsetting TV show, book, or movie	N	18.03	2.00	3.76*
Got to class late	S	40.98	20.00	2.94**
Holiday	N	4.92	11.00	-1.33
Sat through a boring class	S	59.02	38.00	2.64**
Favorite sporting team lost	B	32.79	15.00	2.70**
Other	B	11.48	5.00	1.52

Note: *$p < .001$, ** $p < .01$, *** $p < .05$. S = items related to college (School); N = items not related to the college experience (Non-school); B = items in between (Between).

getting enough sleep ($M = 81$) than did US respondents ($M = 33$), t (-3.78), $p < 0.001$. Ukrainian respondents also reported more stress from fighting with a boy/girlfriend ($M = 26$) than did US respondents ($M = 8$), t (-1.95), $p = 0.05$. In addition, Ukrainian students reported more stress from having a hangover ($M = 14$) than did US students ($M = 0$), t (-3.13), $p < 0.01$. Ukrainian respondents reported more stress from not balancing a checkbook ($M = 17$) than did US respondents ($M = 1$), t (-3.07), $p < 0.01$ (Table 6).

Hypothesis 2

I examined the differences in reliance on social support as coping strategies between Ukrainian and US college students. I predicted that Ukrainian college students would have more social support compared to US college students.

Materials

In order to test the second hypothesis, the participants were asked to complete the Brief COPE (Carver, 1997), the Collectivistic Coping Scale (Yeh, 2003), and the UCLA Loneliness Scale (Russell, 1996). Translation of these three scales into Russian was done as already described for the PSS-14 and USQ.

Brief COPE. The Brief COPE is a validated 25-item self-reported inventory that measures the use of different coping strategies in response to stress (Carver, 1997). Participants were asked to rate each of the items by using 4-point scales, rating from 1 (I have not been doing this at all) to 4 (I have been doing this a lot) (Appendix D).

Collectivistic Coping Scale. The CCS is a validated 35-item self-reported measure designed to assess coping strategies from a collectivistic cultural orientation (Yeh, 2003). The CCS consists of the following subscales: Respect for Authority, Forbearance, Social Activity, Intracultural Coping, Relational Universality, Fatalism, and Family Support. Participants were asked to describe a problem they have encountered within the past six months that was distressful or troubling to them. Keeping the problem in mind the participants then indicated how they coped by rating the extent to which they used each of the coping strategies on a 7-poin scale, rating from 1 (Not used) to 7 (Used a great deal).

UCLA Loneliness Scale. The UCLA Loneliness Scale is a validated 10-item self-reported assessment that is designed to measure feeling of loneliness and isolation (Russell, 1996). Participants were asked to rate each statement in terms of how often they feel this way, on 4-point scale, rating O (I often feel this way), S (I sometimes feel this way), R (I rarely feel this way), and N (I never feel this way) (Appendix E).

Statistical Analysis

The responses to Brief COPE and the Collectivistic Coping Scale were divided into fourteen and seven subscales respectively to assess reliance on Social Support for coping (Carver, 1997; Yeh, 2003). The 14 subscales of the Brief COPE, the 7 subscales of the Collectivistic Coping Scale, and the UCLA Loneliness Scale were selected as the dependent variables. Culture was the independent variables. In order to investigate the differences in social support between two cultures, a MANOVA was conducted with the dependent variables.

Results

I examined the differences in reliance on social support with 21subscales as dependent variables between countries as an independent variable. The overall multivariate result was significant: Wilks' Lambda = 0.25, F (44, 274) = 6.27, $p < 0.001$, Pillai's trace = 0.93, F (44, 276) = 5.40, $p < 0.001$, Lawley-Hotelling trace = 2.33, F (44, 272) = 7.20, $p < 0.001$, and Roy's largest root = 1.97, F (22, 138) = 12.38, $p < 0.001$, which indicated a difference in the use of coping strategies between US and Ukrainian respondents. Furthermore, the multivariate result was significant for country alone: Wilks' Lambda = 0.34, F (22, 137) = 12.11, $p < 0.001$, Pillai's trace = 0.66, F (22, 137) = 12.11, $p < 0.001$, Lawley-Hotelling trace = 1.94, F (22, 137) = 12.11, $p < 0.001$, and Roy's largest root = 1.94, F (22, 137) = 12.11, $p < 0.001$, which indicated a difference in the use of coping strategies between the US and Ukrainian college students.

Contrary to my hypothesis, however, the US college students relied more on social support than did Ukrainian college students. The US respondents reported more using social activity as a coping strategy ($M = 24.41$) than did Ukrainian respondents ($M = 20.15$), t (-4.10), $p < 0.001$. Also, the US students ($M = 19.05$) differed significantly in the use of intra-cultural coping compared to Ukrainian students ($M = 12.34$), t (-5.73), $p < 0.001$. The US students ($M = $

Table 7

Cultural Differences in Coping Strategies Using Collectivistic Coping Scale and UCLA

Loneliness Scale

Dependent Variable	B	SE	p	95% CI	
Respect for Authority	-1.42	1.32	0.282	-4.023335	1.181215
Forbearance	-1.54	1.10	0.163	-3.700185	0.627026
Social Activity	-4.29	1.05	0.000	-6.351927	-2.218639
Intracultural Coping	-6.73	1.17	0.000	-9.041882	-4.408978
Relational Universality	-4.46	1.05	0.000	-6.545259	-2.383351
Fatalism	-5.17	0.92	0.000	-6.989723	-3.342833
Family Support	-4.94	1.21	0.000	-7.325096	-2.554529
LONELNESS SCALE	-0.34	0.96	0.727	-2.241537	1.56669

Note. CI = confidence interval

21.44) were more likely to use relational universality than did Ukrainian students ($M = 17.02$), t

(-4.24), $p < 0.001$, and more family support as coping strategies ($M = 24.46$) than did Ukrainian

students ($M = 19.63$), t (-4.09), $p < 0.001$ (Table 7).

There were other significant cultural differences in coping strategies. Specifically, US

students ($M = 6.03$) mentioned positive reframing as a coping strategy more often compared to

Ukrainian students ($M = 5.55$), t (-2.30), $p < 0.05$. When faced with a stressor, US students ($M = 6.20$) were more likely to use planning than did Ukrainian students ($M = 5.71$), t (-2.27), $p < 0.05$. Also, US respondents ($M = 6.08$) used acceptance more than Ukrainian respondents ($M = 5.24$), t (-3.99), $p < 0.001$. The US sample ($M = 6.89$) also used more religion for coping with

stressors than did the Ukrainian sample ($M = 4.2$), t (-9.97), $p < 0.001$ (Table 8). There was also

a significant cultural difference in fatalism as a coping strategy: US college students ($M = 22.95$)

Table 8

Cultural Differences in Coping Strategies Using Brief COPE Scale

Dependent Variable	*B*	*SE*	*p*	95% CI	
Self-distraction	-0.15	0.26	0.569	-0.6500991	0.3588476
Active coping	-0.12	0.22	0.605	-0.5572202	0.3256833
Denial	0.99	0.19	0.000	0.6221316	1.353816
Substance use	0.47	0.12	0.000	0.2303268	0.7006802
Use of emotional support	0.09	0.25	0.718	-0.3983848	0.5769906
Use of instrumental support	-0.41	0.25	0.096	-0.9037199	0.0749225
Behavioral disengagement	0.14	0.21	0.510	-0.2748692	0.550548
Venting	0.41	0.23	0.072	-0.0376741	0.8649549
Positive reframing	-0.50	0.22	0.023	-0.9236193	-0.070755
Planning	-0.49	0.21	0.024	-0.9104572	-0.0638681
Humor	0.52	0.24	0.029	0.0529483	0.9893183
Acceptance	-0.84	0.21	0.000	-1.258841	-0.4246319
Religion	-2.70	0.27	0.000	-3.234317	-2.164704
Self-blame	0.03	0.25	0.919	-0.4735043	0.5252776

Note. CI = confidence interval

reported using it more frequently than Ukrainians ($M = 17.79$), t (-5.60), $p < 0.001$.

Although, some coping strategies were found in both cultures, Ukrainian college students used some maladaptive strategies for coping, such as denial and substance use. Ukrainian respondents ($M = 3.50$) were more likely to use denial as a coping strategy than did US respondents ($M = 2.51$), t (5.33), $p < 0.001$. Ukrainian students ($M = 2.46$) also reported that they used substance as a coping strategy more often compared to US students ($M = 2.00$), t (3.91), $p < 0.001$. In addition, Ukrainian students ($M = 4.78$) mentioning humor as a coping

strategy more frequently than did US students ($M = 4.26$), t (2.20), $p < 0.05$. There were no significant cultural differences in the feeling of loneliness.

Hypothesis 3

The purpose of the third hypothesis was to examine whether social support would mediate any differences in perceived stress between countries. I predicted that social support would mediate differences in perceived stress between Ukrainian and US college students.

Statistical Analysis

I had planned to use the Shrout and Bolger (2002) approach to assess whether social support would account for differences in perceived stress between countries, with country being the independent variable and perceived stress being the dependent variable. First, the predictor variable was supposed to be correlated with the outcome variable in order to establish that there is an effect that may be mediated by social support. Second, the predictor was supposed to be correlated with the mediator. Third, the mediator was supposed to be correlated with the outcome variable, while the predictor variable was held constant. Fourth, the predictor variable was supposed to be correlated with both the mediator and the outcome variable. Finally, the predictor variable was supposed to be correlated with the outcome variable, while the mediator is held constant. To test the significance of the mediation effect, I had planned to use the PRODCLIN program (MacKinnon et al., 2007).

Results

Because there was no significant difference between US and Ukrainian students in perceived stress, there was no effect to be mediated by social support. As such, I was unable to evaluate hypothesis 3 further.

Discussion

There is a growing conviction that it is important to understand responses to everyday stressors because they often negatively influence physical and mental outcomes (Comer, 2007; Kohn, Lafreniere, & Gurevich, 1991). Stress responses are influenced by the way the person appraises both the event itself as well as the available resources to cope in an effective way (Comer, 2007). Much of the focus in prior studies has been on the health-promoting role of social support. Research suggests that social support influences mental and physical health (Berkman, 1995; Cohen & Wills, 1985; & House, Landis, & Umberson, 1988, p. 302).

Contemporary American society has been characterized as having preference for social distance, emphasizing personal privacy and individual rights (Oyserman, Coon, & Kemmelmeier, 2002); on the other hand, Ukrainian society has been characterized by very close interpersonal bonds, emphasizing open and sincere relationships between family members and friends (Prykarpatska, 2008). This suggests that respondents in the US sample would be less likely to use social support in times of stress, because individualistic cultures encourage individual autonomy, self-efficacy, concern for oneself, and competition (Wong, Wong, & Scott, 2006). In contrast Ukrainians would be more likely to rely on social support as a coping strategy, because of the sense of interconnection (Prykarpatska, 2008). Because of findings suggesting that Ukrainians use more social support than do Americans, I had hypothesized that US participants would have higher levels of perceived stress.

Contrary to my expectations, the US and Ukrainian respondents scored similarly on a measure of perceived stress. That is, culture did not predict stress perception. However, it is noteworthy that income was associated with stress perception in both samples. My findings suggest that college students from lower income families were more likely to report higher levels

of perceived stress compared with students from higher income families. Results of the current study also suggest some association between maternal education and stress perception. That is, higher levels of mother's education were associated with lower levels of perceived stress in college students. Together, these findings suggest that socioeconomic factors are important in perceived stress across both cultures.

Importantly, however, significant cultural differences were found in use of coping strategies. Perhaps the most surprising finding was that US respondents reported using more social support for coping with stress than did Ukrainian respondents, again in contrast to my expectations. A possible explanation for this finding is that the US respondents were all members of the Church of Jesus Christ of Latter-day Saints (LDS). Active members of the Church of Jesus Christ of Latter-day Saints have strong social support (Cohen & Syme, 1985; Enstrom, 1975; Mineau, Smith, & Bean, 2002; Ostrow, Paul, Dark, & Behrman, 1986).

Given the current evidence, the US college students used more collectivistic coping than did the Ukrainian students. This finding questions the prevailing dogma that individualism is more prevalent in the United States than in certain other countries generally perceived to be more collectivistic than the United States, in particular Ukraine. This finding is consistent with an earlier report showing that Asians used less social support for coping with stressful events than did European Americans (Taylor, Sherman, Kim, Jarcho, Takagi, & Dunagan, 2004). My findings also fit well with the findings of Oyserman, Coon and Kemmelmeier (2002), who found that European Americans were not more individualistic or less collectivistic than Latinos or Japanese respectively. Although my findings may not be widely generalizable because the entire US sample were active LDS, they suggest that characterizing an entire country as collectivistic

or individualistic may be inappropriate because subgroups within a country may be very different from the country as a whole.

In addition to reporting greater use of social support for coping with stress, the US respondents also reported using more frequently compared to the Ukrainian sample positive reframing, planning, acceptance, religion, and fatalism as coping methods. Ukrainians were more likely to report using humor, substances, and denial for coping. Substance use and denial have been generally regarded as maladaptive methods of coping with stress. Social support and individual coping strategies, such as planning, have been regarded as more positive coping strategies. Potentially, then, the coping strategies observed among the Ukrainian college students may have maladaptive implications for mental health.

Considerable cultural differences were found in the number of stressors faced by students. Although, students in both countries reported the same types of academic, non-academic and in-between stressors, the US respondents reported having significantly more stressors in each category than did the Ukrainian respondents. As one would expect, students were most affected by events related to education, such as examinations, papers, projects, and speaking with a professor. Ukrainian college students reported more as stressors not having enough sleep, fighting with boy/girlfriend, having a hangover, and having a checkbook did not balance.

There are limitations of the present study that should be noted. A major limitation is that relatively small sample size suggests that the study could have been underpowered to detect differences between groups. Second, the cross-sectional design of the research precludes determining any causal relationships in my findings. A third limitation is that varying numbers of participants in the samples could also affect the present results in terms of finding differences

between groups. In addition, because age was restricted, the generalizability of the current study may also be limited to young college students; it may be that very different findings would exist in older samples, differences likely due to not only age itself but also to a cohort effect. Finally, all of the US respondents were LDS, and so the findings may not be widely generalized to other populations in the United States. Further research should be conducted, using a non-LDS sample, to examine the differences in use of social support. Despite potential limitations, this study extends prior research on social relationships influencing perceived stress.

In summary, this research emphasizes the importance of considering culture in order to understand stress responses to everyday hassles and use of coping strategies. Although, the US and Ukrainian college students scored similarly on measure of perceived stress, there were significant cultural differences in coping strategies. The US college students used more frequently their social networks for coping when facing stressors, Ukrainian college students reported doing so to a lesser extent. Moreover, since the US college students reported having significantly more stressors, but their perceived stress was not higher than that reported by Ukrainians, the findings of this study add to the evidence that adaptive coping strategies, more specifically, social support is beneficial in times of stress.

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Appendix A

Demographic Questionnaire

Date: _____

Age

What is your age? _____

Sex

What is your sex?

- Male
- Female

Country of Birth

What country were you born in? _____

Race/ethnicity

How do you describe yourself? (Please check the one option that best describes you)

- American Indian or Alaska Native
- Hawaiian or Other Pacific Islander
- Asian or Asian American
- Black or African American
- Hispanic or Latino
- Non-Hispanic White

Marital/Relationship status

Are you:

- Dating
- Engaged
- Married
- Divorced
- Widowed
- Separated

- Never married
- A member of an unmarried couple
- Other_____

Academic major

What is your major? _____

Education completed

What is the highest grade or year of school you have completed?

- College 1 year
- College 2 years
- College 3 years
- College 4 years
- College 5 years
- Graduate School
- Other_____

Employment status

Are you currently:

- Employed for wages
- Self-employed
- Out of work for more than 1 year
- Out of work for less than 1 year
- A homemaker
- A student
- Unable to work
- Other_____

Religious affiliation

What is your religious affiliation?

- Protestant Christian
- Latter-day Saint
- Roman Catholic
- Evangelical Christian
- Jewish

- Muslim
- Hindu
- Buddhist
- Other _____

Parents' Education and Income

Father's education (degree): _____

Mother's education (degree): _____

Father's work: _____

Mother's work: _____

What is your current household income in U.S. dollars?

Household income is the total income (taxable and nontaxable) of all the members of a

family over the age 18.

- Under $10,000
- $10,000 - $19,999
- $20,000 - $ 29,999
- $30,000 - $ 39,999
- $ 40,000 - $ 49,999
- $ 50,000 - $ 59,999
- $ 60,000 - $ 69,999
- $70,000 - $ 79,999
- $80,000 - $89,999
- $90,000 - $ 99,999
- Over $100,000
- Would rather not say

Appendix B

PSS-14

INSTRUCTIONS:

The questions in this scale ask you about your feelings and thoughts during THE LAST MONTH.   In each case, you will be asked to indicate your response by placing an "X" over the circle representing HOW OFTEN you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

	Never 0	Almost Never 1	Sometimes 2	Fairly Often 3	Very Often 4
1. In the last month, how often have you been upset because of something that happened unexpectedly?	0	1	2	3	4
2. In the last month, how often have you felt that you were unable to control the important things in your life?	0	1	2	3	4
3. In the last month, how often have you felt nervous and "stressed"?	0	1	2	3	4
4. In the last month, how often have you dealt successfully with day to day problems and annoyances?	0	1	2	3	4
5. In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?	0	1	2	3	4
6. In the last month, how often have you felt confident about your ability to handle your personal problems?	0	1	2	3	4

	Never	Almost Never	Sometimes	Fairly Often	Very Often
7. In the last month, how often have you felt that things were going your way?	0	1	2	3	4
8. In the last month, how often have you found that you could not cope with the things that you had to do?	0	1	2	3	4
9. In the last month, how often have you been able to control irritations in your life?	0	1	2	3	4
10. In the last month, how often have you felt that you were on top of things?	0	1	2	3	4
11. In the last month, how often have you been angered because of things that happened that were outside of your control?	0	1	2	3	4
12. In the last month, how often have you found yourself thinking about things that you have to accomplish?	0	1	2	3	4
13. In the last month, how often have you been able to control the way you spend your time?	0	1	2	3	4
14. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	0	1	2	3	4

Appendix C

Undergraduate Stress Questionnaire
(Stressful events in descending order of events)

Please check the appropriate stressors in your life that have affected you during the current semester.

	Stressor
	1. Death
	2. Had a lot of tests
	3. It's final's week
	4. Applying to graduate school
	5. Victim of a crime
	6. Assignments in all classes due the same day
	7. Breaking up with boy/girlfriend
	8. Found out boy/girlfriend cheated on you
	9. Lots of deadlines to meet
	10. Property stolen
	11. You have a hard upcoming week
	12. Went into a test unprepared
	13. Lost something (especially wallet)
	14. Death of a pet
	15. Did worse than expected on test
	16. Had an interview
	17. Had projects, research papers due
	18. Did badly on the test
	19. Parents getting divorced
	20. Dependent on other people
	21. Having roommate conflicts
	22. Car/bike broke down, flat tire
	23. Got a traffic ticket
	24. Missed your period and waiting
	25. Thoughts about future
	26. Lack of money
	27. Dealt with incompetence at the Register's Office
	28. Thought about unfinished work
	29. No sleep
	30. Sick, Injury
	31. Had a class presentation
	32. Applying for a job
	33. Fought with boy/girlfriend
	34. Working while in school

	35. Arguments, conflicts of values with friends
	36. Bothered by having no social support of family
	37. Performed poorly at a task
	38. Can't finish everything you need to do
	39. Heard bad news
	40. Had confrontation with as authority figure
	41. Maintaining a long-distance boy/girlfriend
	42. Crammed for a test
	43. Feel unorganized
	44. Trying to decide on major
	45. Feel isolated
	46. Parents controlling with money
	47. Couldn't find a parking space
	48. Noise disturbed you while trying to study
	49. Someone borrowed something without permission
	50. Had to ask for money
	51. Ran out of toner while printing
	52. Erratic schedule
	53. Can't understand your professor
	54. Trying to get into your major or college
	55. Registration for classes
	56. Stayed up late writing a paper
	57. Someone you expected to call did not
	58. Someone broke a promise
	59. Can't concentrate
	60. Someone did a "pet peeve" of yours
	61. Living with boy/girlfriend
	62. Felt need for transportation
	63. Bad haircut today
	64. Job requirements changed
	65. No time to eat
	66. Felt some peer pressure
	67. You have a hangover
	68. Problems with your computer
	69. Problem getting home from bar when drunk
	70. Used a fake ID
	71. ~~No sex in a while~~
	72. Someone cut ahead of you in line
	73. Checkbook didn't balance
	74. Visit from a relative and entertaining him/her
	75. ~~Decision to have sex on your mind~~
	76. Spoke with a professor
	77. Change of environment (new doctor, dentist, etc.)

	78. Exposed to upsetting TV show, book, or movie
	79. Got to class late
	80. Holiday
	81. Sat through a boring class
	82. Favorite sporting team lost
	83. Other _____

Appendix D

Brief COPE

These items deal with ways you've been coping with stress in your life in recent 6 months. There are many ways to try to deal with problems. These items ask what you've been doing to cope with this one. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

	I haven't been doing this at all 1	I've been doing this a little bit 2	I've been doing this a medium amount 3	I've been doing this a lot 4
1. I've been trying to work or other activities to take my mind off things.	1	2	3	4
2. I've been concentrating my efforts on doing something about the situation I am in.	1	2	3	4
3. I've been saying to myself "this isn't real."	1	2	3	4
4. I've been using alcohol or other drugs to make myself feel better.	1	2	3	4
5. I've been getting emotional support from others.	1	2	3	4
6. I've been giving up trying to deal with it.	1	2	3	4

7. I've been taking action to try to make the situation better.	1	2	3	4
8. I've been refusing to believe that it has happened.	1	2	3	4
9. I've been saying things to let my unpleasant feelings escape.	1	2	3	4
10. I've been getting help and advice from other people.	1	2	3	4
11. I've been using alcohol or other drugs to help me get through it.	1	2	3	4
12. I've been trying to see it in a different light, to make it seem more positive.	1	2	3	4
13. I've been criticizing myself.	1	2	3	4
14. I've been trying to come up with a strategy about what to do.	1	2	3	4
15. I've been getting comfort and understanding from someone.	1	2	3	4
16. I've been giving up the attempt to cope.	1	2	3	4
17. I've been looking for something good in what is happening.	1	2	3	4

	1	2	3	4
18. I've been making jokes about it.	1	2	3	4
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.	1	2	3	4
20. I've been accepting the reality of the fact that it has happened.	1	2	3	4
21. I've been expressing my negative feelings.	1	2	3	4
22. I've been trying to find comfort in my religion or spiritual beliefs.	1	2	3	4
23. I've been trying to get advice or help from other people about what to do.	1	2	3	4
24. I've been learning to live with it.	1	2	3	4
25. I've been thinking hard about what steps to take.	1	2	3	4
26. I've been blaming myself for things that happened.	1	2	3	4
27. I've been praying or meditating.	1	2	3	4
28. I've been making fun of the situation.	1	2	3	4

Appendix E

UCLA Loneliness Scale

Indicate how often each of the statements below is descriptive of you.
Circle one letter for each statement:

	I often feel this way O	I sometimes feel this way S	I rarely feel this way R	I never feel this way N
1. How often do you feel unhappy doing so many things alone?	O	S	R	N
2. How often do you feel you have nobody to talk to?	O	S	R	N
3. How often do you feel you cannot tolerate being so alone?	O	S	R	N
4. How often do you feel as if nobody really understands you?	O	S	R	N
5. How often do you find yourself waiting for people to call or write?	O	S	R	N
6. How often do you feel completely alone?	O	S	R	N
7. How often do you feel you are unable to reach out and communicate with those around you?	O	S	R	N
8. How often do you feel starved for company?	O	S	R	N
9. How often do you feel it is difficult for you to make friends?	O	S	R	N
10. How often do you feel shut out and excluded by others?	O	S	R	N