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Coping Mechanisms and Stress in a University Population

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Abstract

Increased levels of stress, which are often common in university students, lead to variety of health consequences and coping behaviours. These coping behaviours can have either positive or negative effects. The participants were 204 university students obtained through canvassing classrooms and the Psychology Department's volunteer participant program. A number of different coping mechanisms were examined. The relationships between stress level and alcohol, drug use, sexual behaviours, and high-risk sexual behaviours are considered. The use of problem-oriented coping strategies, such as seeking advice from professors and/or counselors, were also examined since these are generally viewed as having positive effects on stress level. It was expected that as stress increased so would the likelihood of participants using sexual behaviours as coping mechanisms. It was hypothesized that participants who used alcohol and drugs as coping mechanisms would be more likely to use sexual coping behaviours, especially those involving higher risk sexual behaviours. Significant correlations ($\alpha = .05$) were found between stress level, marijuana use, and several measures of sexual behaviour. Significant negative correlations were found between stress level and problem-oriented coping, $r = -.24$, $p = .001$. As well, significant correlations were found between stress and sexual coping behaviours, between $r = .14$ and $r = .20$. Finally, getting drunk was indeed found to correlate significantly with risky sexual behaviour, $r = .16$, $p = .023$.

Coping Mechanisms and Stress in a University Population

Being a university student can involve a great deal of stress (Zaleski, Levey-Thors, & Schiaffino, 1998). Stress has been defined as the subjective reaction to situations wherein individuals perceive a potential threat to their well-being (Day & Livingstone, 2003). Stressors are then defined as those situations that have the ability to create stress. Lazarus and colleagues (DeLongis, Folkman, & Lazarus, 1988) state that the interaction between stressors and the individual should be our main focus. The way in which one individual reacts to a stressor may be completely different than another individual reacting to the same stressor. This transactional theory of stress is important to understanding the individual differences in reacting to a stressor, such as enrollment in university.

Stress has been found to be a particularly salient factor during final exams, leading to decreased grades and increased levels of depression and anxiety (Sloboda, 1990). Also, many university students move away from home to attend post secondary institutions (Zaleski et al., 1998) which can also induce stress. For many students, living alone can be an additional source of stress. One way of measuring stress is to look at an individual's level of self-perceived stress. Self-perceived stress is assessed using an instrument such as the Perceived Stress Scale (PSS) which examines the degree to which life events are viewed as stressful by the individual (Cohen, Kamarck, & Mermelstein, 1983). Levels of perceived stress have been shown to be related to many physical and psychological measures of health: for example, immune functioning (Ellard, Barlow, & Mian, 2005), levels of depression (Hewitt, Flett, & Mosher, 1992), and coronary heart disease (Strodl, Kenardy, & Aroney, 2003).

Several studies have specifically investigated how university students cope with the stressors (e.g., Cortoni & Marshall, 2001; Gil, 2005; Naquin & Gilbert, 1996; Revell, Warburton,

& Wesnes, 1985; Sloboda, 1990). According to Gil (2005), coping mechanisms are methods an individual can employ as a way of dealing with stressors. These mechanisms are usually broken up into three styles: problem-oriented coping, emotion-oriented coping, and avoidance-oriented coping. Problem-oriented coping mechanisms attempt to deal directly with the stressor by reducing its impact or by increasing the resources available to effectively deal with it. Emotion-oriented coping mechanisms are those that reduce the emotional impact of stressors. Finally, avoidance-oriented coping refers to coping mechanisms used to separate physically or psychologically from stressors. Emotion- and avoidance-oriented coping are more often used when individuals feel that there is nothing they can do regarding the source of the stressor (Zuckerman & Gagne, 2003).

Individual differences in coping style have been shown to be related to both physical and psychological health. Problem-oriented coping has been shown to be related to decreased psychological symptoms such as depression and anxiety (Forsythe & Compas, 1987). Emotion-oriented coping has been found to be related to greater emotional adjustment, reduced physiological arousal, and decreased negative affect (Stanton, Kirk, Cameron, & Danoff-Burg, 2000). Use of avoidance-oriented coping, however, has been shown to be related to negative consequences such as lower GPA and decreased perceived competence (Zuckerman & Gagne, 2003).

Emotion-oriented coping is of particular importance for university students. Use of certain emotion-oriented coping strategies has been shown to be related to engaging in risky sexual behaviours, abuse of alcohol, and skipping class (Cooper, Shapiro, & Powers, 1998; Cooper, Wood, Orcutt, & Albino, 2003). Emotion-oriented coping strategies such as alcohol, tobacco, and marijuana use have been found to be common in university samples (Kieffer,

Cronin, & Gawet, 2006). Alcohol has been found to be a poor coping mechanism in some studies (Sloboda, 1990); however, in other studies, moderate amounts have been found to be effective (Zaleski et al., 1998).

Of particular interest for the current study is the use of sexual behaviours as an emotion-oriented coping mechanism. The use of these behaviours as a way of coping with stress has been investigated in sex offender populations (Cortoni & Marshall, 2001), but has not been studied extensively in other populations (e.g., non criminal, university). Amongst sex offenders, the use of sexual behaviour has been found to be a common coping mechanism for dealing with negative feelings and/or stress. Specifically, sex offenders engage in more frequent masturbation and fantasy about sadomasochistic activities than non sex offender populations.

The use of sexual behaviour among university students as a form of emotion-oriented coping has many potential risks and benefits (Brody, 2006; Brody & Krüger, 2006; Cerwonka, Isbell, & Hansen, 2000; Zaleski et al., 1998). Some forms of sexual behaviours can be risky because of possible exposure to sexually transmitted infections (STIs), unwanted pregnancy, and the physical, emotional, and/or psychological harm associated with inappropriate partners or acts. Alcohol and marijuana are also commonly used emotion-oriented coping methods amongst university students (Fortenberry et al., 2005; Zaleski et al., 1998) and, aside from their own inherent risks, they have also been found to increase sexual risk-taking behaviours such as unprotected vaginal and anal sex, multiple partners, and sex with anonymous partners. Although these activities may offer temporary relief from the effects of stressors, they may also create problems of their own by increasing the risk of exposure to STIs, unwanted pregnancy, or physical harm. For example, rates of heterosexually transmitted HIV have been found to be increasing, and approximately half of all new infections are among those under 25 years of age

(Cerwonka et al., 2000). Within undergraduate populations, rates of risky sexual behaviour are as high as 80% for men and 38% for women (Gil, 2005).

However, sexual behaviour has also been shown to have physical and psychological health-enhancing effects (Brody, 2003; Brody, 2006; Brody & Krüger, 2006). Engaging in penile-vaginal intercourse has been found to be related to increased cardiovascular health, lower systolic blood pressure, decreased risk of obesity, and decreased risk of mortality. Brody (2006) also found that in the case of systolic blood pressure, penile-vaginal intercourse accounted for more variance than having a family history of hypertension, use of hypertension medications, exercise, marital difficulties, cynical hostility, depression, or smoking. As well, penile-vaginal intercourse has been found to be related to psychological benefits such as increased emotional awareness, increased self-esteem, and improved affect.

The most useful coping strategies for successfully dealing with stress are the problem-oriented coping strategies (Gil, 2005). Problem-oriented strategies, such as making a schedule for working on assignments, seeking advice from counselors, and seeking social support have been found to be the most effective coping strategies in a university sample (Sloboda, 1990).

Zuckerman and Gagne (2003) proposed a comprehensive five-factor model of coping responses. Their five-factor model attempted to overcome the limitations of previous measures of coping responses. The five factors which comprise Zuckerman and Gagne's model are as follows: Approach, Self-help, Accommodation, Avoidance, and Self-punishment. The Approach factor measures problem-solving activities which are directed at the source of the stress. Accommodation measures coping responses directed towards coming to terms with stressful situations. Self-help measures coping responses directed towards sustaining emotional well being when under stress. Avoidance measures coping responses which orient an individual away from

stressful situations. Lastly, Self-punishment measures coping responses which are self-directed, such as self-focused rumination and blame.

Zuckerman and Gagne (2003) found that both Approach and Accommodation correlate negatively with measures of depression, anxiety, neuroticism, and burnout. Approach responses are typically used when stressors are seen as changeable whereas Accommodation is typically used when stressors are seen as unchangeable.

Zuckerman and Gagne (2003) found that Self-help strategies such as expressing emotions and seeking emotional support can be used in conjunction with both Approach coping and Accommodation coping styles. Self-help strategies can be used when attempting to directly deal with stressors as in Approach or when coping with a stressor that cannot be dealt with directly as in Accommodation.

Zuckerman and Gagne (2003) found that Avoidance coping can provide temporary benefits when coping with stressors, but in the long term Avoidant coping is not effective. However, Sloboda (1990) found that certain avoidant strategies can be effective for students. Strategies such as going away from campus for a short vacation, leisure activities, and exercise were found to be effective in reducing stress, whereas alcohol was found to be ineffective.

Finally, increased levels of Self-punishment have been found to be consistently related to negative outcomes (Zuckerman & Gagne, 2003). For example, engaging in Self-punishment coping behaviours have been shown to correlate positively with measures of procrastination, anxiety, neuroticism, stress, and burnout. It has been hypothesized that constantly engaging in dysphoric rumination may be emotionally exhausting and therefore interfere with other more effective coping behaviours.

The purpose of this study is to examine perceived stress level and its relationship to various coping strategies used by university students. We will consider students' use of alcohol, drugs, and sexual behaviours in order to assess their prevalence in our sample as coping behaviours and their relationship to perceived stress levels. We were particularly interested in the use of sexual behaviour as a coping mechanism and its relationship to perceived stress. Problem-oriented strategies, such as seeking advice from professors and/or counselors were also assessed since these are generally viewed as having positive effects on stress level.

Our first hypothesis was that perceived stress would be negatively correlated with R-Cope Approach, Accommodation, Self-help, and speaking with a professor or counselor. Second, it was expected that a relationship would exist between stress and the use of sexual behaviours as coping mechanisms and, because of the emotional intimacy involved, a relationship would exist between partnered sexual behaviour and R-Cope Self-help. Third, individuals who use alcohol as a coping mechanism were expected to display an even greater use of sexual coping behaviours, especially those involving higher risk sexual behaviours, than those students who do not use alcohol. Previous research (i.e., Cooper et al., 2003) has shown that avoidance coping may be related to high risk behaviours and this will also be examined. Fourth, because of previous research findings (i.e., Gil, 2005), it was hypothesized that men would engage in more sexual coping activity and high-risk sexual behaviour

Method

Participants

University of British Columbia Okanagan undergraduates ($N = 204$) were recruited through the Psychology Department's volunteer participant program and by canvassing classrooms (after receiving appropriate professor approval). The mean age was 20.56 years (SD

= 3.37) with a range of 18-40 years. The sample was 80.4% women and 18.6% men. Academic year was well distributed with 38.2% 1st year, 23.5% 2nd year, 22.5% 3rd year, and 15.3% 4th year.

Potential participants were informed that the study was meant to examine the relationship between stress and the coping mechanisms used by university students. They were then informed that the study entailed answering Likert-type questions regarding perceived stress level and coping using behaviours such as seeking advice, sexual behaviours, and alcohol/drug use. As well, they were informed that completing the questionnaire required approximately 1 hr and that their participation was strictly voluntary. They were specifically warned that there would be questions regarding their sexual behaviours and drug use and were told that if they were not comfortable with such questions, they were under no obligation to continue and should not participate. Likewise, they were informed that if they wished to withdraw from the study at any time, they were free to do so and their incomplete survey would be destroyed.

Materials

Participants were given a test battery comprised of the Perceived Stress Scale (PSS), the R-COPE, the CDC Sexual Behavior Questions (CSBQ), a measure of drug and alcohol use, and a demographics sheet containing questions pertaining to age, sex, sexual orientation, nationality, and socio-economic status.

The PSS (Cohen & Williamson, 1988; Naquin & Gilbert, 1996) was used to measure the individual's current level of stress. The PSS consists of 10 items on a 5-point Likert-type scale measuring whether the respondents see their lives as unpredictable, uncontrollable, and overloaded. This instrument is intended to provide a measure of current stress and allow for a determination of a relationship between stress level and the amount and type of coping behaviour.

Finally, the PSS has been shown to have good reliability with an internal reliability coefficient of .78 (Cohen & Williamson, 1988).

The R-COPE is comprised of 40 items which measure the types of coping behaviours an individual is engaging in (Zuckerman & Gagne, 2003). The R-COPE is a revised version of Carver and colleague's original 60-item COPE (Carver, Scheier, & Weintraub, 1989). The R-COPE was designed to be a less taxing questionnaire than the original COPE while at the same time retaining good reliability. The R-COPE consists of five subscales: (a) Self-help, (b) Approach, (c) Accommodation, (d) Avoidance, and (e) Self-punishment. These subscales are easily classifiable into problem-oriented and emotion-oriented coping styles and are measured on a 5-point Likert-type scale and have internal reliabilities ranging from .70 to .90 (Zuckerman & Gagne, 2003).

The Approach subscale of the R-Cope measures problem-oriented coping strategies directed at the source of stress; for example, 'I make a plan of action' or 'I take additional action to get rid of the problem.' The four remaining subscales measure emotion-oriented coping strategies. Self-help measures coping strategies directed at maintaining emotional well-being when under stress; for example, 'I take time to express my emotions' or 'I try to let out my feelings.' Accommodation focuses on strategies an individual uses to come to terms with stressful situations; for example, 'I try to be optimistic in spite of what has happened' or 'I look for something good in what is happening.' Avoidance measures coping strategies which orient the person away from problem situations; for example, 'I admit to myself that I can't deal with it, and quit trying' or 'I try to forget the whole thing.' Self-punishment measures maladaptive coping strategies such as self-focused rumination and self-blame; for example, 'I blame myself' or 'I just think about my problem constantly.'

The CBSQ was originally a phone survey, but for the purposes of this study was converted to a written self-report format. The CBSQ is comprised of 75 questions which examine the sexual behaviours and the number of sexual risky behaviours an individual has engaged in. Responses to the CBSQ provided the data needed to analyze the relationship between sexual behaviours and perceived stress level.

A self-administered measure of drug and alcohol use was included. The drug and alcohol measure was intended to examine the possible relationships between individual differences in drug/alcohol use and stress level and coping mechanisms utilized. Included within this measure are several measures of alcohol use, as well as marijuana and other commonly used illicit drugs.

Finally, a demographics sheet was provided after the other sections had been completed. The demographics sheet also contained an option for participants to have their responses withdrawn from the study.

Procedure

Participants were administered the questionnaire during scheduled times in the psychology lab testing rooms or using a secure online questionnaire hosted by SurveyMonkey.com. The participants were also given the option of taking the questionnaire home with them to fill out and then returning the surveys. We recruited participants from the Psychology Department's volunteer participant program which rewarded students with class credit in psychology courses for participating in research. The questionnaire contained an implied consent form; the first section stated the premise that if the questionnaire was completed and returned, informed consent had been given.

Once the participants had completed the survey they were thanked for their participation and requested to refrain from talking about the study with others in order to reduce diffusion of treatment effects.

Results

Perceived Stress

The mean value for PSS scores was 19.8, with a standard deviation of 6.39. Women displayed higher scores ($M = 20.38$, $SD = 6.16$) than did men ($M = 17.68$, $SD = 6.59$). An independent-samples t test found the difference between genders in PSS scores to be significant, $t(193) = -2.41$, $p = .017$, $\eta^2 = 0.29$. PSS scores were normally distributed, with a ratio of skew to its standard error of 1.48 and a ratio of kurtosis to its standard error of 1.17.

R-Cope

Individual mean scores were calculated for each of the R-Cope subscales. The values were as follows: Approach ($M = 2.77$, $SD = .60$), Self-help ($M = 2.84$, $SD = .77$), Accommodation ($M = 2.77$, $SD = .60$), Avoidance ($M = 1.51$, $SD = .44$), and Self-punishment ($M = 2.42$, $SD = .76$); see Table 1. R-Cope Approach, Accommodation, and Self-punishment were distributed normally, whereas R-Cope Self-help and Avoidance were not. Except for Self-help, the subscales of the R-Cope were found to highly correlate with PSS scores using a Bonferroni adjustment to maintain the alpha at .05 (tested against $\alpha = .01$): Approach ($r = -.24$, $p = .001$), Self-help ($r = -.10$, $p = .15$), Accommodation ($r = -.48$, $p < .001$), Avoidance ($r = .38$, $p < .001$), and Self-punishment ($r = .48$, $p < .001$). As well, we examined the correlations between R-Cope Avoidance and our measures of RSB. Avoidance was found not to correlate significantly with either unprotected sex ($r = -.041$, $p = .63$) or alcohol and/or drug use in conjunction with sex ($r = -.006$, $p = .94$).

Table 1

R-Cope Subscale Means and Pearson Correlation with PSS Score

Subscale	<i>M</i>	<i>SD</i>	<i>r</i>	<i>p</i>
Approach	2.77	.60	-.24	< .001
Self-help	2.84	.77	-.10	.15
Accommodation	2.77	.60	-.48	< .001
Avoidance	1.51	.44	.38	< .001
Self-punishment	2.42	.76	.48	< .001

Multiple Regression: PSS and R-Cope

A simultaneous multiple regression was conducted to evaluate the prediction of perceived stress from all five of the R-Cope subscales. The linear combination of R-Cope Approach, Self-help, Accommodation, Avoidance, and Self-punishment was significantly related to PSS score, $R = .61$, $F(5, 181) = 20.88$, $p < .001$. Overall, the five subscales of the R-Cope accounted for 37% of the variance in PSS score. Closer examination of each R-Cope subscale's influence indicated that Self-punishment, Accommodation, and Approach were strong predictors of perceived stress. Self-Punishment, accounted for 13.76% ($\beta = .37$) of the variance in perceived stress. Accommodation accounted for 9% ($\beta = -.29$) of the variance in perceived stress. Approach accounted for 1.96% ($\beta = .14$) of the variance in perceived stress. Similarly, Self-help was significant, also accounting for 1.96% ($\beta = -.14$) of the variance in stress. Therefore, as Accommodation, Approach, and Self-help increase and Self-punishment decreases, perceived stress decreases.

However, R-Cope Avoidance failed to have a significant influence on perceived stress, $\beta = -.09$, $t(181) = 1.41$, $p = .16$. Initially, Avoidance had a significant zero-order correlation, $r = .33$, $p < .001$; however, when the effect of the other R-Cope subscales was partialled out, the correlation was no longer significant, $r = .11$.

Specific Coping Questions

Individual mean scores, gender differences, and correlations with perceived stress were calculated for each of the specific coping questions which were measured on a 7-point Likert-type scale. Items one and two of our specific coping questions were included to examine problem-oriented coping behaviours and items three through seven were included to examine sexual coping behaviours. Cope1 was normally distributed with a ratio of skew to its standard error of 0.33 and with a significantly greater ratio of kurtosis to its standard error of 3.38. Cope2 through Cope7 were negatively skewed.

The first item of our specific coping questions examined the likelihood of speaking with a professor when stressed. Participants selected 1 (*very unlikely*) 8.8% of the time, 16.7% selected 2, 13.2% selected 3, 14.2% selected 4, 20.1% selected 5, 12.3% selected 6, and 14.7% selected 7 (*very likely*). This item had an overall mean of 4.15 ($SD = 1.90$) with no significant difference between genders, $p = 0.55$. A Bonferroni adjustment was applied based on the seven t comparisons made (α set at .007) (see Table 2). A significant correlation was found with this item and perceived stress, $r = .18$, $p = .014$.

Table 2

Mean Ratings by Gender for Cope Items 1-7

Subscale	Men		Women	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Cope1	3.97	1.95	4.17	1.89
Cope2	2.18	1.52	2.20	1.50
Cope3	3.89	2.15	3.65	2.13
Cope4	2.74 ^a	2.08	1.53	1.20
Cope5	3.97 ^b	1.94	2.78	2.05
Cope6	3.71 ^c	2.08	1.61	1.38
Cope7	3.68	1.96	3.04	2.05

^a The difference between genders is statistically significant, $t(42.84) = 3.42, p = .001, \eta^2 = 0.055$

^b The difference between genders is statistically significant, $t(199) = 3.26, p = .001, \eta^2 = 0.051$

^c The difference between genders is statistically significant, $t(44.81) = 5.95, p < .001, \eta^2 = 0.15$

Item 2 (Cope2) of our specific coping questions examined the likelihood of speaking with a counsellor when stressed. Participants selected 1 (*very unlikely*) 46.1% of the time, 22.5% selected 2, 13.2% selected 3, 5.9% selected 4, 9.3% selected 5, 1.5% selected 6, and 1.5% selected 7 (*very likely*). This item had an overall mean of 2.19 ($SD = 1.50$) with no significant difference between genders, ($p = 0.91$). This item did not correlate significantly with stress, $r = .027, p = .71$.

Item 3 (Cope3) of our specific coping questions examined the likelihood of engaging in sexual intercourse with their partner when stressed. Participants selected 1 (*very unlikely*) 26.6%

of the time, 10.8% selected 2, 8.4% selected 3, 10.8% selected 4, 18.7% selected 5, 13.8% selected 6, and 10.8% selected 7 (*very likely*). This item had an overall mean of 3.68 ($SD = 2.13$) with no significant difference between genders, $p = 0.55$ (see Table 2). This item was found to significantly correlate with perceived stress level, $r = .14$, $p = .046$. As well, we found this item was significantly correlated with R-Cope Self-help, $r = .16$, $p = .023$.

The fourth item of our specific coping questions examined the likelihood of looking for sex or a one-night-stand when feeling stressed. The vast majority of respondents reported that it was unlikely that they would engage in sex-seeking behaviour when stressed; 69.1% selected 1 (*not very likely*), 12.7% selected 2, and 7.4% selected 3 for a total of 89.2%. Only 3.9% selected 5, 2.5% selected 6, and 2.5% selected 7 (*very likely*) for a total of 8.9%. This item had an overall mean of 1.76 ($SD = 1.47$) and differed significantly across gender with men ($M = 2.74$, $SD = 2.08$) scoring higher than women ($M = 1.53$, $SD = 1.20$) and the difference accounting for 6% of the variance (η^2) (see Table 2). The distribution of scores for both genders was skewed towards not engaging in this behaviour, more so in the case of women. This item did not correlate significantly with stress, $r = -.093$, $p = .20$; however, this lack of a relationship could have been related to its rarity and the lack of power resulting from having only a few participants who engage in this behaviour.

Item 5 of our specific coping measure examined the likelihood of engaging in masturbation when feeling stressed. Of the respondents, 38.4% selected 1 (*not very likely*), 13.8% selected 2, and 10.3% selected 3 for a total of 62.6% whereas 10.3% selected 5, 10.8% selected 6, and 6.9% selected 7 (*very likely*) for a total of 37.4%. The mean value was 3.0 ($SD = 2.07$) and differed significantly across gender with men ($M = 3.97$, $SD = 1.94$) scoring higher than women ($M = 2.78$, $SD = 2.05$), accounting for 5% of the variance (η^2) (see Table 2). The

distributions also differed across gender, with men displaying a more normal distribution and women a highly negatively skewed distribution. Among men, 39.5% scored between 5 and 7 and although the majority of women (58.3%) scored between 1 (*very unlikely*) and 2, with a considerable number of women scoring between 5 and 7 (*very likely*) (25.7%). We also found a significant correlation between this item and stress, $r = .20, p = .005$.

Likelihood of viewing pornographic materials when stressed was assessed with item 6. Again, the majority of respondents reported it unlikely that they would engage in this behaviour; 69.1% selected 1 (*very unlikely*), 6.9% selected 2, 3.4% selected 3, 6.9% selected 4, 6.9% selected 5, 3.9% selected 6, and 2.9% selected 7 (*very likely*). Cope6 had a mean of 1.99 ($SD = 1.73$) and differed significantly across gender, with men ($M = 3.71, SD = 2.08$) scoring higher than women ($M = 1.61, SD = 1.38$), and with the difference accounting for 15% of the variance (η^2) (see Table 2). This item also highly correlated with the previous item, engaging in masturbation when stressed ($r = .65, p < .000$). This correlation was especially strong among men ($r = .82, p < .000$) versus women ($r = .59, p < .000$), likely due to a stronger link between viewing pornography and engaging in masturbation among men; however, this difference in correlation was found to be not significant ($z = 1.15, p = .13$). This item was also found to significantly correlate with perceived stress level ($r = .14, p = .044$).

The last item of our specific coping questions was the likelihood of engaging in sexual fantasy when stressed. The majority of respondents reported it unlikely that they would engage in this behaviour; 33.8% selected 1 (*very unlikely*), 14.7% selected 2, 7.4% selected 3, 14.7% selected 4, 11.8% selected 5, 11.3% selected 6, and 6.4% selected 7 (*very likely*). The mean value for Item 7 was 3.15 ($SD = 2.04$) and was not significantly different across genders ($p = .084$). However, men ($M = 3.68, SD = 1.96$) were slightly more likely to engage in fantasy than

women ($M = 3.04$, $SD = 2.05$). This difference is visible when looking at the distributions on this item for each gender; the distribution for men was nearly normal whereas the distribution for women was highly negatively skewed. This item was not significantly correlated with stress ($r = .10$, $p = .16$).

CDC-SBQ

In our sample, 71.4% ($n = 144$) participants reported engaging in sexual intercourse over the last 12 months, 71.0% ($n = 27$) men and 71.8% ($n = 117$) women. Men had a mean of 1.61 ($SD = 2.55$) partners in the last 12 months with a range of 0-13, whereas women had a mean of 1.16 ($SD = 1.20$) partners in the last 12 months with a range of 0-7. The 5% trimmed means were examined due to the skewedness of this item and the presence of outliers; men had a trimmed mean of 1.17 and women had a trimmed mean of 1.02. Of those who had sex in the last 12 months, the last time they had sex 88.9% of the men ($n = 24$) and 85.5% of the women ($n = 100$) engaged in penile-vaginal sex, 51.9% ($n = 14$) of the men and 51.3% ($n = 60$) of the women performed oral sex on their partner, 40.8% ($n = 11$) of the men and 42.7% ($n = 50$) of the women received oral sex from their partner, and 11.1% ($n = 3$) of the men and 2.6% ($n = 3$) of the women engaged in anal sex.

Unprotected sex within a relationship was reported by 48.2% ($n = 13$) of the men, 18.5% of the men ($n = 5$) reported engaging in unprotected sex outside a relationship, and one man (3.7%) reported engaging in unprotected sex both within and outside of a relationship.

Unprotected sex within a relationship was reported by 22.2% of the women ($n = 32$), 13.9% of the women ($n = 20$) reported engaging in unprotected sex outside a relationship, and 4.2% women ($n = 6$) reported engaging in unprotected sex both within and outside of a relationship.

An independent-samples t test found that men engaged in significantly more unprotected sex than women, $t(143) = 1.81, p = .037, \eta^2 = 0.022$.

The use of alcohol and drugs in conjunction with sexual intercourse was reported by 19% ($n = 27$) of those in our sample who reported having sex in the last year. Drinking in conjunction with sexual intercourse was reported by 12.7% ($n = 18$) of the subsample and drug use in conjunction with sexual intercourse was reported by 4.9% ($n = 7$) of the subsample. Finally, the use of both alcohol and drugs was reported by 1.4% ($n = 2$) of the subsample.

Gender differences were found in those engaging in alcohol or drug use in conjunction with their last sexual experience, $t(104.97) = -2.92, p = .004, \eta^2 = 0.075$. None of the men reported using drugs or alcohol in conjunction with sex within a relationship. Outside of a relationship, 7.7% ($n = 2$) of men reported using alcohol and none reported using drugs in conjunction with sex. Whereas, 7.7% ($n = 9$) of women reported using alcohol and 3.4% ($n = 4$) reported using drugs within a relationship in conjunction with sex. Of more concern is that 16.2% of women engaging in sexual intercourse outside of a relationship ($n = 19$) reported using alcohol and 3.4% ($n = 4$) in conjunction with their last sexual experience.

Drugs and Alcohol Questionnaire

High levels of alcohol and marijuana usage were reported within our sample. More than half (58%) reported drinking in the last week and 36% reported getting drunk in the last week. Marijuana use was reported by 11.8% in the last week and 45.6% within the last month. Stress was found to correlate negatively with recent drinking ($r = -.18, p = .011$) and marijuana ($r = -.23, p = .001$), but not getting drunk ($r = -.077, p = .26$) or engaging in binge drinking, five or more drinks in one sitting, ($r = -.096, p = .18$), suggesting that marijuana use and moderate drinking may be related to a reduction in perceived stress.

Because of their high intercorrelations with each other, partial correlations were run on drinking and marijuana use. After controlling for the variance of recent marijuana use, the correlation for drinking and stress became nonsignificant, $r = -.13$, $p = .073$. Controlling for the variance of recent drinking reduced the correlation for marijuana and stress, but the correlation remained significant, $r = -.20$, $p = .006$. Therefore, the earlier significant correlation between drinking and stress was likely being mediated by marijuana use.

Risky sexual behaviour (i.e., engaging in unprotected sexual intercourse or using drugs and/or alcohol in conjunction with sexual intercourse) was also found to correlate with recent alcohol use: drinking was not significant, $r = .10$, $p = .11$, but the correlation with getting drunk was significant, $r = .16$, $p = .023$, as was binge drinking, $r = .39$, $p < .000$.

Stimulants such as cocaine and methamphetamines were reported by 1% of students within the last week, 8.8% within the past month, and 10.8% within the last year, with 88.2% reporting never having used stimulants. Specifically, cocaine was reported by 1% within the last week, 3.5% within the last month, 8.5% within the last year, and 12.5% more than a year ago, with 87.6% having never tried cocaine. Methamphetamine use appeared rare, with only 3.9% reporting having used it within the last year and 96.1% having never tried it. On the other hand, caffeine use was reported by 83.3% of students within the last week and 93.6% within the last month, with only 5.4% reporting having never used caffeine. Smoking tobacco was reported by 14.2% of students in the last week and 33.1% in the last month, with 61.3% reporting having never smoked.

The use of club drugs (ecstasy, GHB, and rohypnol) was reported by 1% of the sample within the last week, 8.4% within the last month, 9.9% within the last year, with 89.7% reporting having never used club drugs. We also examined the frequency of use for each club drug

individually. Ecstasy use was reported by 1.5% in the last week, 3.4% within the last month, and 7.3% within the last year, with 85.3% having never tried ecstasy. GHB use was reported by 1% of our sample within the last year and 97.5% reporting having never tried GHB. The use of rohypnol was reported by none of our sample within the last year.

Hallucinogen use was reported by 0.5% within the last week, 11.8% within the last month, 14.7% within the last year, 17.6% more than a year ago, with 82.4% reporting having never used hallucinogens. Specifically, LSD was reported by no one in the last week, 0.5% in the last month, 2.5% within the last year, and 6.4% more than a year ago, with 93.1% having never tried LSD. Psilocybin use was reported by no one within the past week, 1.5% within the last month, 6.4% within the last year, and 19.1% more than a year ago, with 79.9% having never used psilocybin.

Binge drinking was assessed by the number of times an individual had consumed four drinks, or five or more drinks, in a single sitting within the last 2 weeks. In the ‘four drink’ category, 8.4% reported having had four drinks in one sitting three or more times, 4.2% reported this amount two times in the last two weeks, 17.4% reported this amount one time in the last 2 weeks. In the ‘five or more drink’ category, 13.8% reported having five or more drinks in one sitting on three or more occasions, 7.4% reported this for two separate occasions, and 20.2% reported having five or more drinks on one occasion within the last 2 weeks.

Discussion

This study examined levels of perceived stress, coping strategies, sexual behaviours, and various risk behaviours in a university sample. The students sampled in this study were found to have high levels of stress ($M = 19.8$, $SD = 6.39$). This is evident when comparing the values found in this study to those found in earlier studies. Cohen and Williamson (1988) found that, in

the general population, men ($M = 12.1$, $SD = 5.9$) tended have lower scores than women ($M = 13.7$, $SD = 6.6$) and that students tended to be somewhat more stressed in general ($M = 15.3$, $SD = 6.6$). A study conducted by Van Eck and colleagues (1996) found similar values among male white-collar workers ($M = 12.7$, $SD = 6.0$) and used a PSS score of ≥ 16 as a cut-off point for their high stress group. Our findings for men ($M = 17.68$, $SD = 6.59$) and women ($M = 20.38$, $SD = 6.16$) are approximately one SD greater than those in the general population. As well, in our sample, the difference between men and women was statistically significant and accounted for a considerable proportion of the variance with higher stress values for women.

Our first hypothesis was that there would be a significant relationship between perceived stress and both problem-oriented and emotion-oriented coping. The results strongly support this hypothesis. Perceived stress was found to negatively correlate with the two measures of problem-oriented coping we looked at—R-Cope Approach, as well as speaking with a professor if having difficulty with a class. Perceived stress was also found to correlate negatively with emotion-oriented coping, as was measured by R-Cope Accommodation. The R-Cope subscale of Self-help is also an emotion-oriented style; it did not, however, have a significant relationship with perceived stress. Finally, the two R-Cope subscales of Avoidance and Self-punishment strongly correlated positively with perceived stress accounting for 14.4% and 23.0% of the variance in our stress measure, respectively.

In order to understand this relationship further, a simultaneous multiple regression was used. The regression found that the relationship between the five R-Cope subscales and perceived stress was significant and accounted for 37% of the variance in perceived stress. Specifically to problem-oriented coping, the Approach subscale of the R-Cope was significant

and accounted for 4.54% of the variance. However, we were somewhat surprised that Approach was not a stronger predictor of stress.

The regression also found that R-Cope Self-Help, Accommodation, and Self-Punishment were significant predictors of perceived stress. Self-Punishment was found to be the strongest predictor of perceived stress accounting for 13.7% of the variance in perceived stress. The next strongest predictor was Accommodation, which account for 9% of the variance, next was Approach which accounted for another 4.5%, and finally, Self-Help accounted for 2.3% of the variance in stress. R-Cope Avoidance, however, failed to have a significant relationship with perceived stress ($p = .16$).

Previous research (see Zuckerman & Gagne, 2003) has found that increased levels of Self-punishment are related to measures of procrastination, anxiety, neuroticism, stress, and burnout. This may partially explain why Self-punishment was such a salient factor in our university sample.

Zuckerman and Gagne (2003) also found in their study that Approach and Accommodation correlate negatively with measures of depression, anxiety, neuroticism, and burnout. It may be the case that the majority of stressors encountered by university students are not perceived as controllable which would explain the greater strength of Accommodation over Approach in predicting perceived stress in our study.

Although Self-help was not found to be as powerful a predictor of perceived stress as the above mentioned strategies, it may still play an important role in coping with stressors.

Zuckerman and Gagne (2003) found that Self-help strategies such as expressing emotions and seeking emotional support can be used in conjunction with both Approach coping and Accommodation coping styles. Austenfeld and Stanton (2004) found that the similar concept of

emotional approach coping is linked to an increased ability to deal with stressors. Therefore, even though Self-help was not found to be a powerful predictor of stress by itself, it is likely that it may still be an important factor in coping.

Lastly, R-Cope Avoidance was found to not be significantly related to perceived stress. This was somewhat unexpected as avoidance coping has been shown to be related to a variety of negative outcomes in previous research. It may have been the case that the low reported usage of the strategies measured by the R-Cope Avoidance scale contributed to our inability to detect a relationship with perceived stress.

Our second hypothesis was that there would be significant correlations between perceived stress and sexual coping behaviours. We found that there was a relationship between several of our measures of sexual coping and perceived stress. Item 3 looked at the likelihood of engaging in sexual intercourse with a partner when stressed. Item 3 had an overall mean of 3.69 ($SD = 2.13$) with no significant difference between genders. This item was, however, found to have a significant correlation with stress as expected, $r = .14$, $p = 0.046$. Also of importance is that we found a significant correlation between this measure and R-Cope Self-help. This finding suggests that partnered sexual behaviour may act in a similar manner to Self-help strategies and with previous research findings that engaging sexual intercourse is related to better psychological health (Brody 2003; Brody 2006), we believe this finding is important and deserving of further investigation. Also, our population seemed quite similar when compared to others which have been studied. We found that 71% of our sample was sexually active which is similar to the 80% of 20 to 24 year olds reported by Statistics Canada (2005) and the 79% of a university sample reported by Cerwonka and colleagues (2000).

The greatest percentage of our sample responded that it was unlikely that they would engage in sexual intercourse with their partner when stressed with 45.8% selecting responses between 1 (*not very likely*) and 3. However, nearly as many students reported that it was likely that they would engage in intercourse with a partner when stressed with 43.3% selecting responses between 4 and 7 (*very likely*).

Similarly, Bancroft et al. (2003) found in their sample of 919 men, that 28.3% reported a decrease in sexual interest when stressed and 16.6% reported a decrease in sexual response whereas 20.6% reported an increase in sexual interest and 10.6% reported an increase in sexual responding when stressed. Also, Bancroft et al. found that over half (53%) reported occasionally using sex to relieve stress. Bancroft et al. reported that those who used intercourse for stress relief often did so for the physically calming effects felt post orgasm.

Although Bancroft et al. (2003) were examining sexual interest and response, their finding that half of men engage in sex to relieve stress is comparable to our finding that 43.3% of our sample endorsed the high likelihood (score of 5-7) of engaging in sex when stressed. Our results also found that men and women differ very little in this behaviour.

When our results are taken together with those of Bancroft et al. (2003) they suggest that there are likely two common effects of stress on partnered sexual behaviour. It is likely that those who experience a decrease in sexual interest and response would also be unlikely to engage in sex with their partner when stressed. Alternatively, those who experience an increase in sexual interest and responding when stressed would likely be more prone to engage in sex with their partner when stressed; it is also likely that the relationship between stress and the likelihood of engaging in sex would be strongest in this group. Also of interest is the direction the relationship

among those who report having no change in sexual interest and response when stressed, and whether they would be likely to engage in sex with a partner when stressed.

Item 4 of our measure looked at the likelihood of looking for sex or a one-night-stand when feeling stressed. This item had an overall mean of 1.76 ($SD = 1.47$) and differed significantly across gender with men ($M = 2.74$, $SD = 2.08$) scoring higher than women ($M = 1.53$, $SD = 1.20$), with the difference accounting for 6% of the variance. The distribution of scores for both genders was skewed towards not engaging in this behaviour, more so in the case of women. Increased likelihood of engaging in this kind of sex-seeking behaviour would likely be related to having an increased need for sex in general or could also be related to increased sexual interest or response when stressed. This item did not correlate significantly with stress; however, this lack of a relationship could have been related to its rarity and the lack of power resulting from having only a few participants who engage in this behaviour.

Item 5 of our specific coping measure examined the likelihood of engaging in masturbation when feeling stressed. The mean value was 3.0 ($SD = 2.07$) and differed significantly across gender with men ($M = 3.97$, $SD = 1.94$) scoring higher than women ($M = 2.78$, $SD = 2.05$) accounting for 5% of the variance. The distributions also differed across gender, with men displaying a more normal distribution and women a highly negatively skewed distribution. Bancroft and colleagues (2003) found that the use of masturbation to relieve stress is common among men, with 52% reporting occasionally doing so. Our results were similar in that 39.5% of men in our sample scored between 5 and 7 (*very likely*). Although the majority of women (58.3%) scored between 1 (*very unlikely*) and 2, a considerable number of women scored between 5 and 7 (*very likely*) (25.7%). We also found a significant correlation between this item and stress ($r = .20$, $p = .005$).

Likelihood of viewing pornographic materials when stressed was assessed with item 6. The mean value was 1.99 ($SD = 1.73$) and differed significantly across gender ($\eta^2 = 0.15$), with men ($M = 3.71$, $SD = 2.08$) scoring higher than women ($M = 1.61$, $SD = 1.38$). This item also highly correlated with the previous item, engaging in masturbation when stressed. This correlation was especially strong among men compared to women, likely due to a stronger link between viewing pornography and engaging in masturbation among men. This item was also found to significantly correlate with perceived stress level.

The last item of our specific coping questions was the likelihood of engaging in sexual fantasy when stressed. The mean value for Item 7 was 3.15 ($SD = 2.04$) and did not differ significantly across genders or correlate with perceived stress.

The results obtained on these five sexual coping items provided some interesting information regarding the relationship between stress and sexuality in university students. We found that despite high levels of stress, many participants in our sample were likely (score of 5-7) to engage in sex with a partner or masturbation. Also, we found that the likelihood of engaging in these two behaviours positively correlated with stress suggesting that students experiencing increased levels of stress are more likely to engage in this type of coping behaviour.

Our third and fourth hypotheses involved risky sexual behaviours (RSB). For this study we defined RSB as engaging in sexual intercourse without a condom or using alcohol or drugs in conjunction with sex (see Cerwonka et al., 2000; Cooper, Peirce, & Huselid, 1994). Hypothesis three was that alcohol use and RSB would be positively correlated. In the case of binge drinking (i.e., the number of times having five or more drinks in one sitting over the past 2 weeks), this was indeed found to be the case. The correlation between RSB and binge drinking was .39. This result is similar to that of previous research; for example, Cooper et al. (1994) found that alcohol

and drug use before engaging in sex was associated with increased sexual risk taking behaviours and Cerwonka et al. (2000) found similar results for both alcohol and marijuana use. Also, Cooper et al. (2003) found that avoidance style coping is a strong predictor of a variety of risky behaviours, including RSB, among adolescents. That we did not find significant relationships between the R-Cope Avoidance scale and our two measures of RSB was unexpected and warrants further research.

Hypothesis four was that men specifically would engage in both more RSB and display an increased likelihood of engaging in sexual behaviours when stressed. Men were found to be more likely than women to engage in RSB. Within our sample 52.6% of men and 35.6% of women engaged in at least one type of risky sexual behaviour within the last year. Unprotected sex within a relationship was reported by 48.2% of men and 22.2% of women. Our findings of 18.5% of men and 13.9% of women engaging in unprotected sex outside of a relationship are somewhat lower than those found in previous studies. Statistics Canada (1999) reports that among those sampled who engaged in sex with someone outside of a relationship, 27.7% of men and 28.1% of women did not use a condom the last time they had sex outside of a relationship. Also, men were more likely to engage in more sex-seeking (Item 4), masturbation (Item 5), viewing pornography (Item 6), and fantasizing (Item 7). Surprisingly, men and women did not differ in their likelihood to engage in sexual intercourse with a partner when feeling stressed. Another surprising finding was that women were more likely to use drugs and alcohol in conjunction with sex than men.

Limitations

There are limitations to this study which deserve mention. The use of a university sample does limit the generalizability of the results and probably accounts for the differences between

our findings and those of Statistics Canada (1999). The CDC-SBQ did not contain items regarding frequency of sexual behaviours, or the level of satisfaction with said behaviours. We believe this information may have provided a further insight into the relationship between sexual behaviours and stress. A larger sample size would have provided us with greater power to detect differences among groups. This study covered a large variety of coping behaviours which did not allow us to go into specific details of coping strategies as in depth as we could have. For example, future research could examine sexual behaviour variables such as frequency of engaging in behaviours or level of enjoyment derived from those behaviours to see if they would have any effect on stress level and to examine the overall effectiveness of sexual coping behaviours in more detail. Also, the use of a longitudinal or cross-sectional design would also have provided greater information regarding the nature of these relationships.

Conclusion

This study provides a better understanding of the nature of the relationship between stress in university students and various coping strategies, including risky and non risky sexual behaviours. We found relatively high perceived stress levels scores in our university sample which were of concern. We found that students were making use of both problem- and emotion-oriented coping strategies. However, it was surprising how little use students were making of on-campus counseling services. Also, we found that a significant proportion of students were likely to use sexual behaviours as a form of emotional coping. Finally, we found that a majority of students were frequently using alcohol and marijuana.

As well, the results of this study provides a noncriminal baseline for sexual coping behaviours, at least for a university sample; as the bulk of previous research on stress and sexual coping focussed more on risky behaviours or forensic populations, we were specifically

interested in exploring the prevalence of these behaviours in a university population. It appears that there is a substantial subset of students who use various sexual behaviours in response to elevated levels of perceived stress. The use of partnered sexual behaviour as a coping behaviour presents an interesting topic for future coping research. Sexual intercourse within a relationship presents a lower level of risk than those examined in previous coping studies and may offer a valuable new construct in the study of coping behaviours. Also, in the case of partnered sexual behaviour where the proper safety measures (i.e., condoms and/or birth control) are used this mechanism may be nearly devoid of negative consequences. The current study found that a significant proportion of our sample were likely to engage in partnered sexual behaviour when stressed and that this measure was significantly related to perceived stress level. As well, we found a significant correlation between this measure and R-Cope Self-help which suggests that engaging in partnered sexual activity when stressed may function in a manner similar to Self-help strategies. Future research into this phenomenon seems warranted.

This study was not designed to determine the effectiveness of the coping strategies employed by university students. Nevertheless, our results may facilitate campus health initiatives that are better tailored for this population.

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Appendix A

Consent Form

Coping Mechanisms and Stress in a University Population

Principal Investigator: Dr. Jan Cioe, Ph.D., R.Psych
Psychology Department
University of British Columbia
(250) 807-9360

Co-Investigator: J. Andy Buch, Honours Student
Psychology Department
University of British Columbia
(250) 862-1947

You are being invited to take part in a research project that examines the effects of stress on coping behaviours in university students. As a student attending the University of British Columbia Okanagan (UBCO), you are being asked to take part in the following research study. This study is being conducted by Andy Buch, who is currently an honours student attending UBCO. This study is a requirement for successful completion of an undergraduate psychology course in the Honours Psychology Program. The supervising professor is Dr. Jan Cioe.

Your participation is entirely voluntary, so it is up to you to decide whether or not to take part in this study. Before you decide, it is important for you to understand what the research involves. This introduction will tell you about the study, why the research is being done, what will happen to you during the study and the possible benefits, risks, and discomforts.

If you wish to participate, you will be asked to complete the questionnaire and submit it. If you do decide to take part in this study, you are still free to withdraw at any time and without giving any reasons for your decision.

If you do not wish to participate, you do not have to provide any reason for your decision not to participate.

PLEASE TAKE TIME TO READ THE FOLLOWING INFORMATION CAREFULLY.

The purpose of this study is to examine the different coping behaviours used by university students under different levels of perceived stress. This questionnaire contains questions of a personal and / or sexual nature. If these types of questions would make you uncomfortable, please do not participate in this study. Students who are currently attending UBCO and who have English as their first language are being asked to participate in this study. If you are a student who does not have English as a first language and/or are not currently attending UBCO, please do NOT participate in this study.

If you choose to participate in the study, you will be asked to complete a questionnaire with five sections that will take approximately one hour to complete. You may elect to complete the survey online, if you prefer. Your responses to these questions will be kept completely confidential and your name will not appear on any of the material. If the questionnaires are completed, it will be assumed that consent has been given. Your student number will be required

for credit to be given for participation in the study if your professor is utilizing the Experimetrix program for extra course credits.

Your participation in this study is strictly voluntary. At any time during the study, you are free to stop your participation without penalty. If you wish to stop your participation after you have completed the questionnaire, a final option for withdrawal will be provided and selecting it will end your participation and your questionnaire will be destroyed, or if you completed the online questionnaire, you may email either myself (abuch@shaw.ca) or Dr. Jan Cioe (jan.cioe@ubc.ca) and indicate that you would like to terminate participation in the stress and coping study. Please include your student number in the email so that we can destroy the data that belongs to you. When the study is completed, a summary of the results will be available on Dr. Jan Cioe's university home page or you may contact him directly in his office, Arts 332 [250-807-8732].

You should also be aware that your data will form part of an undergraduate thesis which will be catalogued in our Library and available for public access. Moreover, the material from this study may be used for public presentations and / or for journal article submissions. These data may also form part of other projects dealing with this general area of research. Submitting this questionnaire means that you agree to these uses of the data.

If you have any further questions you may contact the researcher Andy Buch (250-862-1947), or Dr. Jan Cioe, the project supervisor (250-807-8732). You may also contact the Research Ethics Board of University of British Columbia Okanagan (250-807-8150), with respect to issues regarding the conduct of this study.

For Experimetrix credit, create a personal code word [e.g., Abracadabra, Kelownarocks, etc.] and then include it here:

_____.

AFTER YOU HAVE COMPLETED THE QUESTIONNAIRE, EMAIL YOUR PERSONAL CODE WORD [as above] AND YOUR STUDENT NUMBER TO ME AT: abuch@shaw.ca .

I WILL THEN BE ABLE TO GIVE YOU YOUR EXPERIMETRIX CREDIT SEPARATED FROM YOUR QUESTIONNAIRE.

Appendix B
Questionnaire

Perceived Stress Scale

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 by circling *how often* you felt or thought a certain way.

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

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 thing 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 felt confident about your ability to handle your personal problems? **0 1 2 3 4**
5. In the last month, how often have you felt that things were going your way? **0 1 2 3 4**
6. In the last month, how often have you found that you could not cope with all the things in your life? **0 1 2 3 4**
7. In the last month, how often have you been able to control irritations in you life? **0 1 2 3 4**
8. In the last month, how often have you felt that you were on top of things? **0 1 2 3 4**
9. In the last month, how often have you been angered because of things that were outside of your control? **0 1 2 3 4**
10. 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**

R-COPE

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

Then respond to each of the following items by circling one number for each, using the response choices listed just below. Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully, and make your answers as true FOR YOU as you can. Please answer every item. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU--not what you think "most people" would say or do. Indicate what YOU usually do when YOU experience a stressful event.

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

- | | |
|--|-------------------------|
| 1. I take time to express my emotions. | 1 2 3 4 |
| 2. I let my emotions show. | 1 2 3 4 |
| 3. I try to let out my feelings. | 1 2 3 4 |
| 4. I allow myself to show how I feel about things. | 1 2 3 4 |
| 5. I discuss my feelings with someone. | 1 2 3 4 |
| 6. I try to get emotional support from friends or relatives. | 1 2 3 4 |
| 7. I talk to someone about how I feel. | 1 2 3 4 |
| 8. I talk to someone to find out more about the situation. | 1 2 3 4 |
| 9. I concentrate my efforts on doing something about it. | 1 2 3 4 |
| 10. I take additional action to try to get rid of the problem. | 1 2 3 4 |

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

11. I take direct action to get around the problem.	1	2	3	4
12. I do what has to be done, one step at a time.	1	2	3	4
13. I make a plan of action.	1	2	3	4
14. I try to come up with a strategy about what to do.	1	2	3	4
15. I think hard about what steps to take.	1	2	3	4
16. I try hard to prevent other things from interfering with my efforts at dealing with this.	1	2	3	4
17. I try to be optimistic in spite of what happened.	1	2	3	4
18. I work on feeling positive no matter what.	1	2	3	4
19. I work on staying positive even when things look bad.	1	2	3	4
20. I get used to the idea that it happened.	1	2	3	4
21. I accept the reality of the fact that it happened.	1	2	3	4
22. I try to see it in a different light, to make it seem more positive.	1	2	3	4
23. I look for something good in what is happening.	1	2	3	4
24. I try to identify something else I care about.	1	2	3	4
25. I say to myself "this isn't real."	1	2	3	4
26. I refuse to believe that it has happened.	1	2	3	4
27. I pretend that it hasn't really happened.	1	2	3	4
28. I admit to myself that I can't deal with it, and quit trying.	1	2	3	4
29. I give up the attempt to get what I want.	1	2	3	4
30. I blame someone or something for what happened to me.	1	2	3	4

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

31. I accuse someone of causing my misfortune.	1	2	3	4
32. I try to forget the whole thing.	1	2	3	4
33. I blame myself.	1	2	3	4
34. I realize I brought the problem on myself.	1	2	3	4
35. I criticize or lecture myself.	1	2	3	4
36. I see that I am at the root of the problem.	1	2	3	4
37. I just think about my problem constantly.	1	2	3	4
38. I return in my head again and again to what is troubling me.	1	2	3	4
39. I relive the problem by dwelling on it all the time.	1	2	3	4
40. I brood over my problem nonstop.	1	2	3	4

The CDC Sexual Behavior Questions

The next questions are about your sexual behaviour. By sex we mean oral, vaginal, or anal sex, but NOT masturbation alone. When we talk about condoms, we mean both male as well as female condoms.

1. During the past 12 months, have you had sex?
Yes []
No []
2. During the past 12 months, how many people have you had sex?
Number _____
Don't know / Not sure []
3. During the past 12 months, have you had sex with only males, only females, or with both males and females?
Only males []
Only females []
Both males and females []
4. During the past 12 months, has a doctor or other health professional told you that you had a sexually transmitted disease, or STD, for example, herpes, gonorrhea, Chlamydia, genital warts?
Yes []
No []
Don't know / Not sure []
5. Have you ever been told by a doctor or other health professional that you were infected with HIV or that you have AIDS?
Yes []
No []
Don't know / Not sure []
6. During the past 12 months, have you given drugs in exchange for sex or received drugs in exchange for sex? By sex we mean vaginal, oral, or anal sex.
Yes []
No []
7. During the past 12 months, have you given money in exchange for sex or received money in exchange for sex? By sex we mean vaginal, oral, or anal sex.
Yes []
No []

FEMALE respondents SKIP to Question #26

**The Following Questions are for
MALE Respondents Only**

The next questions are about sex with a main partner.

8. In the past 12 months have you had sex with someone who you consider to be your main sex partner, that is a partner who you feel committed to above anyone else?

Yes []

No [] SKIP to Question 42

If you had more than one main partner during the past 12 months, we would like you to think of the main partner you had last sex with.

9. When was the first time you had sex with your main partner?

___ / ___ (month/year)

10. When was the last time you had sex with your main partner?

___ / ___ (month/year)

11. Is this person a man or a woman?

Man []

Woman []

*****If MAIN partner is MALE, then SKIP to QUESTION 16*****

12. The last time you had sex with your main partner, did you have vaginal sex, where your penis entered your partner's vagina?

Yes []

No [] SKIP to Question 14

13. Was a condom used?

Yes []

No []

14. The last time you had sex with your main partner, did you have oral sex, where your mouth touched your partner's vagina?

Yes []

No [] SKIP to Question 16

15. Was a barrier (dental dam, plastic wrap, etc.) used?

Yes []

No []

16. The last time you had sex with your main partner, did you have oral sex, where your penis entered your partner's mouth?

Yes []

No [] SKIP to Question 18

17. Was a condom used?

Yes []

No []

18. The last time you had sex with your main partner, did you have anal sex, where your penis entered your partner's anus (butt)?

Yes []

No [] SKIP to Question 20

19. Was a condom used?

Yes []

No []

*****If MAIN partner is FEMALE, then SKIP to QUESTION 24 *****

20. The last time you had sex with your main partner, did you have anal sex where your partner's penis entered your anus (butt)?

Yes []

No [] SKIP to Question 22

21. Was a condom used?

Yes []

No []

22. The last time you had sex with your main partner, did you have oral sex, where your penis entered you partner's mouth?

Yes []

No [] SKIP to Question 24

23. Was a condom used?

Yes []

No []

24. The last time you had sex with your main partner, were you under the influence of alcohol?

Yes []

No []

25. The last time you had sex with your main partner, had you been using drugs to get high before or during sex?

Yes [] SKIP to Question 42

No [] SKIP to Question 42

MALE respondents SKIP to Question #42

**The Following Questions are for
FEMALE Respondents Only**

26. In the past 12 months have you had sex with someone who you consider to be your main sex partner, that is a partner who you feel committed to above anyone else?

Yes []

No [] SKIP to Question 60

27. When was the first time you had sex with your main partner?

___ / ___ (month/year)

28. When was the last time you had sex with your main partner?

___ / ___ (month/year)

29. Is this person a man or a woman?

Man []

Woman []

***** If MAIN partner is FEMALE, then SKIP to QUESTION 36 *****

30. The last time you had sex with your main partner, did you have vaginal sex, where your partner's penis entered your vagina?

Yes []

No [] SKIP to Question 32

31. Was a condom used?

Yes []

No []

32. The last time you had sex with your main partner, did you have oral sex, where your partner's penis entered your mouth?

Yes []

No [] SKIP to Question 34

33. Was a condom used?

Yes []

No []

34. The last time you had sex with your main partner, did you have anal sex, where your partner's penis entered your anus (butt)?

Yes []

No [] SKIP to Question 36

35. Was a condom used?

Yes []

No []

36. The last time you had sex with your main partner, did you have oral sex, where your partner's mouth touched your vagina?

Yes []

No [] SKIP to Question 38

37. Was a barrier (dental dam, plastic wrap, etc) used?

Yes []

No []

If MAIN partner is MALE, the SKIP to QUESTION 40

38. The last time you had sex with your main partner, did you have oral sex, where your mouth touched your partner's vagina?

Yes []

No [] SKIP to Question 60

39. Was a barrier (dental dam, plastic wrap, etc.) used?

Yes []

No []

40. The last time you had sex with your main partner, were you under the influence of alcohol?

Yes []

No []

41. The last time you had sex with your main partner, had you been using drugs to get high before or during sex?

Yes [] SKIP to Question 60

No [] SKIP to Question 60

FEMALE respondents SKIP to Question #60

**The Following Questions are for
MALE Respondents Only**

The next series of questions are about sex with someone who is/was not your main partner.

42. In the past 12 months have you had sex with someone who is **NOT** your main partner

or whom you did not consider to be your main partner at the time?

Yes []

No [] SKIP to END

43. When was the first time you had sex with this partner?

___ / ___ (month/year)

44. When was the last time you had sex with this partner?

___ / ___ (month/year)

45. Is this person a man or a woman?

Man []

Woman []

*****If partner is MALE, then SKIP to QUESTION 50*****

46. The last time you had sex with this partner, did you have vaginal sex, where your penis entered your partner's vagina?

Yes []

No [] SKIP to Question 48

47. Was a condom used?

Yes []

No []

48. The last time you had sex with this partner, did you have oral sex, where your mouth touched your partner's vagina?

Yes []

No [] SKIP to Question 50

49. Was a barrier (dental dam, plastic wrap, etc.) used?

Yes []

No []

50. The last time you had sex with this partner, did you have oral sex, where your penis entered your partner's mouth?

Yes []

No [] SKIP to Question 52

51. Was a condom used?

Yes []

No []

52. The last time you had sex with this partner, did you have anal sex, where your penis entered your partner's anus (butt)?

Yes []
No [] SKIP to Question 54

53. Was a condom used?

Yes []
No []

*****If partner is FEMALE, then SKIP to QUESTION 58*****

54. The last time you had sex with your main partner, did you have anal sex, where your partner's penis entered your anus (butt)?

Yes []
No [] SKIP to Question 56

55. Was a condom used?

Yes []
No []

56. The last time you had sex with this partner, did you have oral sex, where your partner's penis entered your mouth?

Yes []
No [] SKIP to Question 58

57. Was a condom used?

Yes []
No []

58. The last time you had sex with this partner, were you under the influence of alcohol?

Yes []
No []

59. The last time you had sex with this partner, had you been using drugs to get high before or during sex?

Yes [] SKIP to END
No [] SKIP to END

MALE respondents SKIP to END

**The Following Questions are for
FEMALE Respondents Only**

The next series of questions are about sex with someone who is/was not your main partner.

60. In the past 12 months have you had sex with someone who is **NOT** your main partner

or whom you did not consider to be your main partner at the time?

Yes []

No [] SKIP to END

61. When was the first time you had sex with this partner?

___ / ___ (month/year)

62. When was the last time you had sex with this partner?

___ / ___ (month/year)

63. Is this person a man or a woman?

Man []

Woman []

*****If partner is FEMALE, then SKIP to QUESTION 70*****

64. The last time you had sex with this partner, did you have vaginal sex, where your partner's penis entered your vagina?

Yes []

No [] SKIP to Question 66

65. Was a condom used?

Yes []

No []

66. The last time you had sex with this partner, did you have oral sex, where your partner's penis entered your mouth?

Yes []

No [] SKIP to Question 68

67. Was a condom used?

Yes []

No []

68. The last time you had sex with this partner, did you have anal sex, where your partner's penis entered your anus (butt)?

Yes []

No [] SKIP to Question 70

69. Was a condom used?

Yes []

No []

70. The last time you had sex with this partner, did you have oral sex, where your

partner's mouth touched your vagina?

Yes []

No [] SKIP to Question 72

71. Was a barrier (dental dam, plastic wrap, etc.) used?

Yes []

No []

*****If partner is MALE, then SKIP to QUESTION 74*****

72. The last time you had sex with your main partner, did you have oral sex, where your mouth touched your partner's vagina?

Yes []

No [] SKIP to Question 74

73. Was a barrier (dental dam, plastic wrap, etc.) used?

Yes []

No []

74. The last time you had sex with this partner, were you under the influence of alcohol?

Yes []

No []

75. The last time you had sex with this partner, had you been using drugs to get high before or during sex?

Yes []

No []

Drug and alcohol use

In this section you will be asked about your experiences with alcohol and other drugs. You may or may not have used any of these substances. Please read the directions carefully.

PART 1: *RECENCY OF USE*

For these questions, a **drink of alcohol** means more than just a sip. It means a bottle of beer, a cooler, a full glass of wine, or a single shot of liquor (doubles count as two drinks). These questions refer to non-prescription drugs.

1. When was the last time you...	Never	In the Past Week	In the Past Month	In the Past Year	More Than a Year Ago
Drank alcohol	_____	_____	_____	_____	_____
Got drunk	_____	_____	_____	_____	_____
Smoked cigarettes	_____	_____	_____	_____	_____
Used chew tobacco	_____	_____	_____	_____	_____
Used marijuana (hash, hashish, hash oil, etc.)	_____	_____	_____	_____	_____
Used opiates (heroin, morphine, etc.)	_____	_____	_____	_____	_____
Used inhalants	_____	_____	_____	_____	_____
Used stimulants (cocaine, crystal meth, etc.)	_____	_____	_____	_____	_____
Used caffeine (coffee, tea, cola)	_____	_____	_____	_____	_____
Used club drugs (XTC, GHB, roofies)	_____	_____	_____	_____	_____
Used hallucinogens (LSD, mushrooms, etc.)	_____	_____	_____	_____	_____

In this question we ask about your experiences with **specific** drugs. If you have never used the drug please fill in 'Never'.

2. When was the last time you used...	Never	In the Past Week	In the Past Month	In the Past Year	More Than a Year Ago
Ecstasy (E, X, love doves, adam)	_____	_____	_____	_____	_____
GHB (liquid E, easy lay, cherry meth)	_____	_____	_____	_____	_____
LSD (acid)	_____	_____	_____	_____	_____
Mushrooms ('shrooms, cubes, psilocybin)	_____	_____	_____	_____	_____
Fentanyl (china white)	_____	_____	_____	_____	_____
Cocaine (crack, rock, snow, blow)	_____	_____	_____	_____	_____
Methamphetamine (jib, crystal, speed)	_____	_____	_____	_____	_____
Rohypnol (roofies, date rape drug, etc.)	_____	_____	_____	_____	_____
Steroids	_____	_____	_____	_____	_____

3. Indicate how many times in the past two weeks you drank the following amounts in one sitting? If you did not drink in the past two weeks, fill in "None".

	None	Once	Twice	Three or more
Five or more drinks	_____	_____	_____	_____
Four drinks	_____	_____	_____	_____
Three drinks	_____	_____	_____	_____
One or two drinks	_____	_____	_____	_____

For the following questions, if you have never used the substance, please put an N/A on the line.

4. The following questions ask you about your experiences with alcohol.

How old were you the first time you drank alcohol?

If you drank alcohol in the past 30 days, how many days did you drink alcohol?

Coping mechanisms and stress



Think of a typical drinking situation. How many drinks would you normally have?

If you intend to drink in the future, how many drinks do you think you would have in one situation?

5. The following questions ask you about your experiences with tobacco.

How old were you the first time you smoked cigarettes?

In the past 30 days, how many days did you smoke cigarettes?

Think of typical day when you smoke cigarettes. How many cigarettes do you smoke?

If you intend to smoke cigarettes in the future, how many cigarettes do you think you would smoke in a day?

6. The following questions ask you about your experiences with marijuana.

How old were you the first time you used marijuana?

In the past 30 days, how many days did you use marijuana?

Coping Strategies Used When Stressed

The following questions ask about the likelihood of specific coping behaviours when feeling stressed. Please select one of the numbers below each question corresponding to how likely you would be to use that behaviour in that situation.

If you were having difficulty in a particular class, how likely is it that you would see the professor for help or advice?

Not very likely 1 2 3 4 5 6 7 Very likely

If you were feeling stressed how likely is it that you would go see a school counselor?

Not very likely 1 2 3 4 5 6 7 Very likely

If you are feeling stressed how likely is it that you would have sex with your current partner?

Not very likely 1 2 3 4 5 6 7 Very likely

If you are feeling stressed and did not currently have a sexual partner, how likely is it that you would go out and try to find a sexual partner or a one night stand?

Not very likely 1 2 3 4 5 6 7 Very likely

If you are feeling stressed how likely is it that you would engage in masturbation?

Not very likely 1 2 3 4 5 6 7 Very likely

If you are feeling stressed how likely is it that you would view pornographic materials?

Not very likely 1 2 3 4 5 6 7 Very likely

If you are feeling stressed how likely is it that you would engage in fantasy?

Not very likely 1 2 3 4 5 6 7 Very likely

Demographic Information

Age: _____

Sex: _____

What is your sexual orientation? _____

What is your nation of origin?

- Canadian []
- American []
- Chinese []
- Japanese []
- Other _____

What program are you currently enrolled in? _____

What is your major or intended major? _____

What year of study are you currently in? _____

What are your career goals? _____

**Would you be interested in participating in this survey again at the end of the semester?
Additional Experimetrix credit will be assigned upon completion of the second survey.**

Yes []

No []

If you are NOT in a class using Experimetrix and would like to participate please fill out the personal code word section of the consent form as if you were and then email me with that personal code word so that I may contact you via email with details regarding the second wave.

Do you wish your responses to be included in this study?

Yes []

No []

(If **NO** is selected this survey will be destroyed and not included in the study)

This is the end of the questionnaire, thank you for participating.

