Psychological Distress, Causal Attributions, and Coping

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The potential differing effects of causal attributions on both psychological distress and coping in response to a hypothetical exam failure were investigated. A 59 item questionnaire was distributed to 99 male and 90 female students from the University of Canterbury. The questionnaire measured anticipated psychological distress and the probable causes for a hypothetical exam failure using attributional dimensions pertaining to locus of causality, controllability, and stability. Furthermore, the questionnaire listed the coping strategies from the Revised Ways of Coping Checklist (Vitaliano, et al., 1985). The respondents rated the likelihood a strategy would be utilised if they had to cope with failing an exam. The findings showed that exam failures attributed to internal and unstable causes are linked to lower levels of anticipated psychological distress. Causes that were rated as stable were strong predictors of avoidance and "wishful thinking" coping strategies. As expected, women anticipated significantly more psychological distress than men did. Women also reported to a greater extent than men that they would adopt a social support coping strategy if they had to cope with failing an exam.

Having to cope with the psychological distress of failing an exam is inevitable for some university students. The causes that are attributed for the failure may influence subsequent studying behaviour (Weiner, 1985). This implies that coping is shaped by causal attributions, and leads to the question: "are associated levels of psychological distress also directly impacted by the causal attributions for an exam failure?" The central theme is that certain cognitive processes have a predictive capacity when investigating a hypothetical psychological stress transaction. Moreover, gender has proven to be a robust predictor of psychological distress and coping (Day & Livingstone, 2003; Misra, McKean, West, & Russo, 2000; Ptacek, Smith, & Dodge, 1994; Wohlgemuth & Betz, 1991). The present study examines whether gender and causal attributions for a hypothetical exam failure have any bearing on students' anticipated psychological distress and likely coping options.

Distress and Coping

Psychological distress is a negative emotional condition that is an adjunct to the appraisal of threat, harm or loss vis-à-vis an important goal. The negative emotion has been described in one particular study as unpleasant, frustrating, irritable, worrisome, and anxious (Kanner, Coyne, Schafer, & Lazarus, 1981). Consequently, psychological distress ensues from an important demand (stressor) and inadequate resources to mitigate any potential harm, loss or threat (Lazarus & Folkman, 1984). Amelioration of harm or threat is achieved by both regulating distressing emotions and changing the problem that is causing the discomfort; these are labelled emotion focused coping and problem focused coping, respectively (Lazarus & Folkman, 1984).

Note that psychological distress is a stress specific response that is negatively valenced (c.f., Selye, 1976). For all intents and purpose, stress is an inevitable manifestation of living and certain demands that are encountered may threaten a person's well-being and thereby negatively implicate stress. On the other hand, many demanding encounters proffer stress responses that are associated with positive psychological states. This stress specific affect is called eustress (Edwards & Cooper, 1988; Selye, 1976; Simmons & Nelson, 2001). The current focus is on psychological distress where the stress response is associated with an appraisal of threat, harm, or loss and coping ameliorates well-being.

Coping refers to the cognitions and behaviours that people use to regulate distressing situations (Folkman & Moskowitz, 2000). Common nomenclature for the diverse ways of coping is typically constrained to either instrumental or emotional strategies. For example, much research has adopted Folkman and Lazarus's (1988) Ways of Coping, which corresponds to the above nomenclature of behaviour- and emotion-focused coping. This is a multidimensional inventory that provides

descriptions of situation-specific coping strategies that people can self-report. Coping is regarded to be context specific where adaptive coping relies heavily on the ability to discriminate those situations that can or cannot be controlled (e.g., Affleck, Tennen, & Gershman, 1985; Baum, Fleming, & Singer, 1983; Stroebe, Stroebe, & Domittner, 1988; Taylor, Lichtman, & Wood, 1984; Thompson, Bundek, & Sobolew Shubin, 1990; Thompson, Sobolew Shubin, Graham, & Janigian, 1989; Worchel, Copeland, & Barker, 1987). Therefore, the effectiveness of problem- or emotion-solving strategies varies as a function of the perceived controllability of the stressor (Compas, Malcarne, & Fondacaro, 1988; Forsythe & Compas, 1987). For instance, after failing an exam, planning better study habits is within a person's control and is an effective strategy that may ease the threat of failing the entire course.

Gender and Distress

Previous research shows that men and women differ in perceptions of distress (Day & Livingstone, 2003; Misra et al., 2000). Misra et al. (2000) found that women reported a greater number of academic stressors than men did. They conclude that men tend to perceive life events as less stressful and react more positively to academic stressors. Day and Livingstone (2003) also found that women perceived school, friend, and work scenarios to be more distressing than men did. Their findings support the differential vulnerability hypothesis (Roxburgh, 1996), which suggests that when faced with identical stressors, women will perceive greater distress than men.

Women generally adopt different coping strategies to their male counterparts in response to distress. In particular, women tend to use social support to a greater degree than men (Day & Livingstone, 2003; Nolen Hoeksema & Rusting, 1999; Ptacek, Smith, & Zanas, 1992; Wohlgemuth & Betz, 1991;). Not only do women provide more support, but they seek and utilise support systems more than men do (Belle, 1987). Day and Livingstone (2003) found that women reported that they would seek support from their friends and family members to a greater degree than did men in order

to cope with distressing situations. Traditional gender-role stereotypes of men and women have been used to explain such findings (Greenhaus & Parasuraman, 1999). That is, women have been socialised to be emotionally expressive and interdependent, whereas men have been socialised to be independent (Stokes & Wilson, 1984). However, others would argue that the aforementioned gender differences are partly biologically determined (e.g., Campbell, 2002). Biological evidence is scant for explaining gender differences; rather, social explanations seem to account for greater variance to date (Nolen Hoeksema & Rusting, 1999).

Attributions

The basic premise behind attribution theory is that failure or success motivates spontaneous searches for causes as to *why* the outcome happened (Weiner, 1985). Ascertaining the causes of either success or failure allows people to better predict and understand their environments and promotes effective coping (Weiner, 1986). How people actually explain causes as to why things happen can be attributed to three dimensions. The first dimension is locus of causality; that is, people attribute causes either externally to the environment or internally to themselves (Heider, 1958). The second dimension is stability (Weiner, 1986). Stability depicts to what extent the causes are considered stable or unstable. The final dimension is control, whereby causes are considered controllable or uncontrollable. In attribution research, these three dimensions typically classify the myriad of possible causes that could affect coping outcomes.

Attribution research has accumulated a plethora of research findings in the academic domain. A number of studies reported that attributions to internal causes were more likely to occur following successful academic outcomes and external causes are more likely to explain academic failures (Bernstein, Stephan, & Davis, 1979; Frieze & Bar Tal, 1980; Kovenklioglu & Greenhaus, 1978; Watkins & Regmi, 1994). In these studies, internal attributions such as ability and effort were more likely to be endorsed by those who had done well (or who imagined themselves or others doing well) on a course exam. Alternatively, external attributions

such as bad luck or test difficulty were more likely to be endorsed by those who had done poorly or failed (or imagined themselves or others failing). In other research, successful achievements are ascribed stable causes like ability, whereas failures are ascribed unstable causes like effort and bad mood (Frieze, 1976). In a more recent study, classification of the attribution according to its controllability as well as locus and stability proved essential when predicting either coping behaviour or states of distress (Amirkhan, 1998). According to Amirkhan, the traditional dimensions of locus, stability, and controllability (Weiner, 1985, 1986) are necessary for research intending to investigate the prediction of either coping or distress-related pathology.

Previous Research on Distress, Attributions, and Coping

It was previously mentioned that finding the cause as to *why* something happened may promote effective coping. When explicating this link between causal attributions and coping, there is limited support that internal, stable, and global attributions relate to both problem-focused coping (Follette & Jacobson, 1987) and to more avoidant patterns of response, for example, minimization and suppression (Rim, 1990). However, when research has included the controllability dimension, then results have been more consistent. For example, controllable, internal, and unstable causes for stressors generally relate positively to instrumental coping and negatively to avoidant coping (Baumgardner, Heppner, & Arkin, 1986).

More recent research by Amirkhan (1998) investigated the causal attributions for failing to cope with stressful events. Those who ascribed internal, unstable, and controllable factors for the failures produced active efforts to resolve the problem or rally social support. As a result, such efforts helped to reduce subjective distress and distress-related pathology. Avoidant and escapist responses, which aggravate distress and illness, were the result of coping failures attributed to external, stable, and uncontrollable forces.

It is claimed above that causal attributions play a pivotal role in

stress outcomes. Other findings demonstrate that people tend to appraise an uncontrollable event as being more distressing than a controllable event, even if they do not actually do anything to affect it (Suls & Mullen, 1981; Thompson, 1981). Findings such as these imply that cognitive processes, like attributing causes for a particular outcome, are undermining psychological stress, and may be further linked to how a person *thinks* they would cope. The claim that cognitive processes are seemingly interdependent in a stress transaction and have predictive capacity is of primary concern for the present study. Thus, given that the core theme is concerned with how people think, the present study used a questionnaire to capture what people thought or believed they might do and feel when faced with a hypothetical exam failure. Indeed, the attitudes reported may be disparate to actual behaviours elicited with an "objectively real" situation. Nevertheless, the present research is only concerned with attitudes relative to causal dimensions and coping strategies that are an adjunct to anticipative psychological distress.

In general, the current hypothesis is that student's attitudes concerning causal attributions for a hypothetical exam failure will relate to indices of distress and coping. More specifically, it is expected that: 1) uncontrollable, external, and stable causes will predict greater levels of anticipated psychological distress; 2) internal, unstable, and controllable causes will positively correlate with indices of social-support and instrumental coping; and 3) external, stable, and uncontrollable causes will lead to more avoidance and escapist responses. In other words, if the apparent causes for the exam failure are within a person's control to be changed (i.e., the causes are regarded as unstable and controllable), then problem-focused coping strategies or active efforts to palliate the distress will be mainly reported. Conversely, if the causes are considered to be controllable and internal, it is expected that students will report coping strategies that are associated with blaming themselves. Moreover, external, stable, and

uncontrollable causes (i.e., cannot be changed) will lead to more avoidance type coping strategies being reported. In addition, believing that the causes for the stressor can be changed may have a direct impact on the negative affect anticipated. For instance, anticipated distress will be less if the causes for the failure are considered changeable. It is also expected that women compared with men will: 1) report greater levels of anticipated distress; and 2) report a greater likelihood of seeking social support in response to the anticipated negative affect.

Method

Participants

Participants were 189 Canterbury university students (99 males and 90 females). The age of the respondents ranged from 18 to 55 years (with a mean age of 24 years; $SD = 7.10$). Each participant received a one dollar scratch and win lottery ticket ($10,000 maximum scratch prize) after completing the questionnaire.

Measures

The present study used a self-report questionnaire and measured: (1) age and gender; (2) anticipated distress; (3) accessible causal attributions; and (4) likely coping options. The order of presentation of each measure was fixed and corresponded to assumed chronology of a stressful episode (i.e., distress response – causal attribution – palliative coping). The same stressor was given to all participants. The

stressor was as follows:

> *"Imagine that you have just received a grade for an important mid year exam for one of your major papers. Unfortunately, you have failed."*

Distress Measure. Many of the available distress measures asked about actual stressful events, and their level and frequency of felt strain (e.g., Kanner et al., 1981); however, this research is concerned with attitudes towards a potential stressor. Therefore, to measure student's anticipated psychological distress, six questions were asked and were based on Kanner et al's (1981) adjectives which denoted stress. Each question was followed by a 9-point type scale with end-point labels determined by the scale question (see table 1).

Principal component analysis with varimax rotation extracted 1 factor. There was good internal consistency among the distress items (Coefficient alpha = .91). As a result, the scores were summed to produce one composite distress measure, namely total distress (m=43.3, SD=7.037). Table 1 shows the factor loadings for each question.

Attribution Measure. The Causal Dimension Scale (CDS) was used to typify causes for failing an exam (Russell, 1982). This allowed respondents to classify their attributions according to the dimensions of locus of causality (LOC), stability, and controllability. The three-dimensional structure of the measure has been shown to have acceptable levels of

Table 1. Factor structure of distress items

Item	End points (1 & 9 respectively)	Factor loading
How stressed would you be in this situation?	Not all stressed – extremely stressed	.83
How anxious would you become in this situation?	Not all anxious – extremely anxious	.84
How unpleasant would this situation be?	Not all unpleasant – extremely unpleasant	.75
How frustrated would you be in this situation?	Not all frustrated – extremely frustrated	.80
How much worry would this situation cause you?	No worry at all – constant worry	.81
How irritated would you be in this situation?	Not all irritated – extremely irritated	.70

reliability (with an average alpha of .81). Both convergent and discriminant validity have been demonstrated for the measure (Russell, 1982).

Respondents were instructed to think about the reason or reasons why they may have failed the midterm exam. They were asked to rate items in relation to their impressions or opinions of the cause or causes for their failure. Each item was followed by a nine-point type scale. The end-points are dependent on the scale-item. A total score for each of the three subscales was obtained by summing the responses to the individual items suggested by (Russell, 1982). High scores on these subscales indicate that the cause is perceived as internal, stable, and controllable.

Coping Measure. Coping responses were assessed using the Revised Ways of Coping Checklist (Vitaliano, Russo, Carr, Maiuro, & Becker, 1985). This questionnaire reflects Lazarus and Folkman's theory of coping (see Lazarus & Folkman, 1984). Results obtained from factor analysis in several studies have demonstrated successful separation of the scales into problem-focused and emotion-focused coping (Folkman & Lazarus, 1985; Vitaliano, et al., 1985). The problem-focused factor is made up of 20 items, which

includes six items relating to seeking social support. The emotion-focused factor includes 8 items relating to wishful thinking, 10 items relating to avoidance strategies, and 3 items relating to blaming one-self. Each item was followed by a 9 point type scale (end points: extremely unlikely through to extremely likely). Students were instructed to indicate how likely the strategy would be used to cope with failing an exam.

Results

Descriptive Results. Means, standard deviations, and correlations for the final composite measures are shown in Table 2. High scores on the LOC, stability, and controllability scales indicate an internal locus of causality, a stable and controllable attribution respectively. High scores on the coping scales indicate the likelihood that the coping strategy would be adopted. Although falling within the parameters of normality, the distress measure is slightly negatively skewed, thus participants on average anticipated that failing an exam would be distressing.

The main areas of interest are the relationships between attributions, distress, and coping in general. The only significant relationship for attributions and anticipated distress was the stable

dimension ($n = .15$, $p < .05$), indicating that, given the stressor, stable causes may lead to slightly greater anticipated distress. On the other hand, the causal attributions related well with coping. The strongest relations in these two sets of variables (i.e., attributions and coping) are between LOC and blaming self ($n = .37$, $p < .05$) and between stable attributions and avoidance ($r = .37$, $p < .05$). The former relation suggests that if the causes for failing an exam are considered to be internal, then blaming the self is a coping strategy that is likely to be adopted. The latter relation suggests that stable causal attributions, those causes that are unlikely to change, are more likely to be coped with emotionally by using avoidance coping strategies.

Another point of interest, although not hypothesised, are the significant correlations between coping and total distress. Given that the questionnaire asked how students would cope with failing an exam, such correlations depict likely coping strategies in response to anticipated distress. That is, seeking social support is considered, in general, a very likely option given the hypothetical stressor. So are wishful thinking, blaming self, and avoidance coping strategies.

Attributions, Distress and Coping. In the next stage of the analysis, the three causal attributions were regressed onto total distress and each of the coping factors using version 6.1 of Statistica (see Table 3). Four of the six equations yielded significant *F*s. The greatest amount of variance accounted for by the set of dependent variables was in "blaming self" coping (17%). When stability is removed from the model, there is practically no change in the variance accounted for ($F(2,185) = 18.88$, $p < .001$; $R^2 = .17$), suggesting that the two causal dimensions of LOC and controllability significantly predict the utility of "blaming self" coping. In other words, as expected, if the causes for failing an exam were attributed to internal and controllable factors then respondents have reported that the self was to blame. In addition, if respondents reported that the causes for failing an exam were stable or unchangeable, then wishful thinking

Table 2. Correlations, means, and standard deviation (SD) on all the study variables

Variable	TD	LOC	Stab	Ctrl	PFC	SSS	BS	WT	AvD
LOC	-.14								
Stab	.15*	-.21*							
Ctrl	-.01	.45*	-.25*						
PFC	-.04	-.03	-.06	-.16*					
SSS	.35*	-.17*	-.04	-.07	.32*				
BS	.17*	.37*	-.06	-.33*	-.08	.11			
WT	.29*	.06	-.22*	-.02	-.25*	.12	.37*		
AvD	.17*	-.13	.37*	-.22*	-.23*	-.16*	.15*	.57*	
Means	43.29	18.2	17.9	19.54	90.29	35.07	19.19	37.88	48.78
Std Dev	7.04	4.27	3.8	3.68	16.46	9.67	5.23	12.88	13.27
MPS	54	27	27	27	126	54	36	72	90

- *=p<.05
- Key: TD=Total Distress; LOC=Locus of Causality; Stab=Stable; Ctrl=Control; PFC=Problem Focused Coping;; SSS=Seeking Social Support; BS=Blame Self; WT=Wishful Thinking; AvD=Avoidance; MPS=Maximum Possible Score.

and avoidance were coping strategies largely reported. Although the causal dimensions controllability and LOC were not significant predictors in the two models pertaining to avoidance and wishful thinking, the hypothesis has been partially supported. That is, if the causes for failing an exam are believed to be unchangeable (i.e., stable), then more avoidance and escapist type coping responses may be reported.

The models investigating instrumental coping strategies provided less promising results however. The model concerning problem-solving coping was insignificant. Though, it appears that controllability (β = -.2, *p*<.05) is governing whether respondents would have problem solved when faced with the stressor. As expect, being able to alter the problem is heavily reliant on discerning those situations that can or cannot be controlled. Seeking social support was hypothesised as another viable option for when causes can be changed, though the model investigating this coping strategy was insignificant.

Although the overall model regressing causal attributions onto total-distress was significant, none of the individual coefficients were

significant at the .05 level. Nevertheless, the overall model demonstrates that the likely causal attributions for a hypothetical exam failure significantly accounted for some of the variance in the anticipated psychological distress.

Gender, distress, and attributions. Independent t-tests were performed on the study variables to compare mean differences between males and females when faced with a hypothetical exam failure. As expected, females anticipated more distress than males (*t*(186)=2.06, *p*<.05) and reported that they would adopt social-support (*t*(186)=2.99, *p*<.01;) to a greater extent than males would. The results yielded small effect sizes for the significant gender differences measured by Cohen's *d* (distress *d* =.27 and social-support *d* =.42), leading to 45% power for distress and an acceptable 83% power for social support differences.

Discussion

The goals of the present study were to examine the potential differing effects of students' causal attributions for failing a hypothetical exam on both anticipated distress and the likely utility of subsequent coping strategies. The results were promising

when comparing causal attributions and coping. If the students reported the causes for an exam failure to be controllable and have an internal locus of causality then, as expected, they were likely to opt for a "blaming self" coping strategy. In addition, if causes were considered to be stable (not able to be changed), then they were more likely to report "wishful thinking" and avoidance coping strategies. There was only minimal support however, that anticipated distress would be lower if causes for the hypothetical stressor were thought to be changeable (i.e., internal, controllable, and unstable).

Another concern for the present research was to examine gender differences in reports of anticipated distress and subsequent coping. The findings suggest that men and women anticipate different levels of distress. As expected, women anticipate greater distress than males. Furthermore, a strong finding was that males and females differed on their responses concerning the likelihood of seeking social support to combat the distress. That is, females were more likely than males to report the utility of social support as a coping strategy in response to a hypothetical stressor.

Attributions and Coping

The causal attributions were most strongly associated with the coping strategy "blaming self." If students particularly thought that they could have controlled the causes of the exam failure, then blaming themselves seemed a suitable coping option. That is, taking responsibility meant that the student might take measures to prevent the outcome from happening again because they believed the outcome could be controlled. Accordingly, this is considered effective coping; that is, discerning those situations that can or cannot be controlled (e.g., Folkman, 1992).

There was also a strong association between stable attributions and both avoidance and "wishful thinking" coping strategies. Thus, when the stressor was considered unchangeable by the students, dreaming about a more preferable outcome and distancing themselves from the problem was seemingly an attractive option. Although, avoidance type coping

Table 3. Multiple regression results

Dependent Variable	Predictors	Standardised Beta
Total-Distress	LOC	-.15
	Unstable	-.14
	Controllable	.09
Coping		
Problem Solving	LOC	.04
	Unstable	.10
	Controllable	-.20*
Seeking Social Support	LOC	.18*
	Unstable	.07
	Controllable	-.01
Blame Self	LOC	.29*
	Unstable	-.07
	Controllable	.21*
Wishful Thinking	LOC	.12
	Unstable	-.25*
	Controllable	.01
Avoidance	LOC	.00
	Unstable	-.34*
	Controllable	-.13

Note * = p<.05

strategies have shown to aggravate distress and illness (Amirkhan, 1999).

Attributions and Distress

The causal attributions for a stressor may escalate perceptions of distress. In the present research, unchangeable (i.e., stable) causes positively correlated with anticipated distress. In past research, people have been shown to explain academic failures in terms of external causes (e.g., Watkins & Regmi, 1994). For example, external attributions such as bad luck or test difficulty have been endorsed by those who have done poorly on exams. Moreover, the current findings show that unstable and internal causes also predicted lower levels of distress. Effort is an *unstable* cause that is often ascribed for failures (Frieze, 1976), and effort is also considered an *internal* attribution (Frieze & Bar Tal, 1980). The negative correlation found in the present study between stability and locus of causality lends itself to suggest that internal attributions are in part unstable, that is changeable, like effort for instance. According to the current results, those who ascribe to say a lack of effort (internal and unstable) rather than to bad luck (external and stable) as causes for an exam failure may indeed anticipate *less* distress. By contrast, external and stable forces tended to aggravate anticipated distress, a previously found phenomenon (e.g., Amirkhan, 1998).

Distress and Coping

The student's general selections of coping strategies to deal with the hypothetical exam failure were strongly and positively associated with levels of anticipated distress. For example, as anticipated distress increased, the likelihood of utilising social support increased. From this finding, social support could be interpreted as perpetuating distress. Based on the chronology of the questionnaire however, students were asked to report likely coping strategies in response to the anticipated distress. Therefore, the correlation is due to a high likelihood of a particular strategy been utilised rather than the coping strategy increasing distress per se. Previous research demonstrates that social support does indeed hold promise for distress and facilitating adjustment (Gottlieb, 1983).

Gender and Distress

The results provide support for the hypothesis that women report more distress than men do. These findings indicate that when faced with an identical stressor like exam failure, women anticipated more distress than what men anticipated. This supports the differential vulnerability hypothesis (Roxburgh, 1996).

Whereas some theorists argue women are exposed to higher levels of stressors than are men and, therefore, experience more distress (McDonough & Walters, 2001), it may in fact be that women's perceptions of stressors is elevating negative health outcomes (Kessler, 1979; Misra et al., 2000). Differences in socialization may be contributing to such responses; that is, women may have learnt to be more open and to report their emotions (Lueptow, Garovich Szabo, & Lueptow, 2001; Wethington, McLeod, & Kessler, 1987). It could also be that biological determinants may be governing distress perceptions (Campbell, 2002) Nevertheless, social explanations seem to provide the most robust explanations to date (Nolen Hoeksema & Rusting, 1999).

Gender and Coping

The results of the present study lend direct and considerable support for the hypothesis that women would seek social support to a greater extent than men would. Consistent with previous research, social support is a salient factor for females in perceptions of distress. However, this factor is unrelated for males (Sherman & Walls, 1995).

One possible explanation, although not the only one, is gender-role stereotypes of men and women and how these may accentuate difference in distress and social support (e.g., Greenhaus & Parasuraman, 1999). Because traditional male gender-role expectations require men to solve their problems independently, men may be less inclined to turn to others for help (Stokes & Wilson, 1984). By contrast, women are encouraged to be expressive and interdependent, hence utilising social support more effectively and to a greater degree than men (Stokes & Wilson, 1984). Even though the explanations offered relate in

a consistent manner to our hypothesis, it remains unclear from the results that gender socialisation were in actual fact determining gender differences.

Limitations and Implications

The findings from the present study add to our knowledge of attributions and their role in differing distress and coping outcomes, and validate gender differences concerning distress and utilising social support. However, the present study was interested with a specific scenario – failing an exam and students' anticipated distress outcomes. Future research would do well to examine the coping behaviours and causal attributions of students who have recently failed an exam. In saying that, whether students are faced with a real exam failure or with a hypothetical scenario, they are armed with the same cognitive processes measured in the present research; individual responses to stressors are largely governed by appraisal processes (Lazarus & Folkman, 1984). Measuring appraisal processes can only be done via self-report and whether retrospective accounts of past behaviour or hypothetical situations are investigated, both methods are undermined by ostensible self-report limitations.

The use of a cross-sectional design is not without its limitations either. It is difficult to determine cause and effect from correlation analyses; that is, for example, do attributions predict levels of distress or does felt distress predict causal attributions? Either way, a relationship between the variables demonstrates a link between peoples' rationale for outcomes and the stress processes. At some stage, cognitive appraisals involving attributional processes must be affecting the stress transaction as it unfolds.

In summary, a sample of Canterbury university students responded to a questionnaire asking them about a versant scenario of failing an exam, associated attitudes of anticipated distress, possible causes for the failure, and likely options to cope with the negative affect. The student's pattern of responses was indicative of attribution theory that suggests people's reasons for failing an exam – causal attributions – will affect outcomes. More specifically, the

findings from the present study suggest that stable and external causes attributed to an exam failure lead to increased levels of anticipated distress. Coping was then dependent on the stability of the causal attribution. If causes were anticipated as stable – unchangeable, then emotional strategies were more likely to be adopted whereas if the causes were considered unstable, then social support systems were reported as more of a likely coping option. Higher levels of distress also directly predicted reporting of emotional and social-support coping options as having likely utility. Moreover, female students reported higher levels of anticipated distress than what male students did. Females were also more likely to adopt social support coping strategies than men were. Overall, these findings demonstrate that cognitive appraisals have the potential to undermine psychological well-being.

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