

COGNITIVE APPRAISAL OF DISSERTATION STRESS AMONG UNDERGRADUATE STUDENTS

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The present study examined changes in primary and secondary appraisal, and coping strategies utilized in the final weeks leading to dissertation submission. Sixty volunteer Sports Studies dissertation students (male: $n = 29$; female: $n = 31$) completed an adapted Cognitive Appraisal of Health Scale (CAHS: Kessler, 1998), and Brief COPE (Carver, Scheier, & Weintraub, 1989) on 4 occasions over the 6 weeks before dissertation submission. Repeated measures multivariate analysis of variance indicated a significant main effect for gender, with no main effect for changes over time and no significant interaction effect. Results demonstrated that males perceived the dissertation to be significantly more threatening and less challenging than females. With regard to coping, males used more active coping, positive reframing, planning, and acceptance of the stressor, with lower scores for self-blame, venting of emotions, and behavioral disengagement. The results suggest that, for this student population, the dissertation did not become increasingly stressful in the period before submission. Clear relationships were also evidenced between primary appraisal, secondary appraisal, and coping. Future research should seek to identify factors that moderate the influence of situational stressors on coping responses among undergraduate students.

Anecdotal and empirical evidence suggests that students find completing the final-year dissertation stressful (Collins & Onwuegbuzie, 2003; Lane, Devonport, & Horrell, 2004; Matheny, Aycok, & MacCarthy, 1993) and ineffective coping strategies have been found to be associated with poor academic performance (Collins & Onwuegbuzie, 2003; Matheny et al., 1993). Therefore, research that seeks to investigate stress among dissertation students could assist in the development of stress regulation strategies grounded in theory and evidence.

We thank Karen Milton and Laura Williams for their help in collecting this data. We also thank two anonymous reviewers for their helpful and insightful comments made in the review of this paper. Please address correspondence to Tracey Devonport, University of Wolverhampton, School of Sport Performing Arts and Leisure, Walsall Campus, Gorway Road, Walsall, WSI 3BD, U.K. (E-mail: T.Devonport@wlv.ac.uk).

The process through which individuals interpret and respond to potentially stressful situations is known as cognitive appraisal. Cognitive appraisal has been defined as "a process through which the person evaluates whether a particular encounter with the environment is relevant to his or her well being, and if so, in what ways" (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986, p. 992). Cognitive appraisal and the meanings generated from them are always relational because they must simultaneously take into account personal factors along with environmental demands, constraints, and opportunities (Frydenberg, 2002; Lazarus & Folkman, 1984). This interaction creates a need to see appraisal of stress and coping strategies as a process, a transaction between person and event that plays out across time and changing circumstances (Lazarus, 1993). Those coping reactions relevant at one phase of a transaction may be used to a lesser extent, or may even have different effects if used at different phases of the transaction. With this in mind, in order to assess appraisal and coping, repeated measures are required so that changing as well as relatively stable variables can be identified (Lazarus, 1999).

Lazarus and Folkman (1984) proposed that the cognitive appraisal of a stressor involves both primary and secondary appraisals that occur at virtually the same time and interact to determine the significance and meaning of events with regard to well-being. During primary appraisal, an individual considers the personal significance of a situation with regard to their own values, personal beliefs, situational intentions, and goal commitments. Primary appraisal considers the implications of a stressor for well-being through interpreting situations in one of three ways: (a) irrelevant, where there are no implications for well-being; (b) benign/positive where the demands of the task are perceived as not threatening and it is possible to preserve or enhance well-being; (c) stressful where the demands of the task are perceived to threaten well-being.

Secondary appraisal refers to a cognitive-evaluative process that focuses on minimizing harm or maximizing gains through coping responses. It involves purposeful evaluations of cognitive, affective, and behavioral efforts to manage a stressor (Lazarus, 1999). Coping options and available resources may include social, physical, psychological and material assets (Lazarus & Folkman, 1984). Perceived control over events is also considered as part of secondary appraisal as the individual decides what can or cannot be done to manage specific external and/or internal demands that are appraised as surpassing a person's resources (Burns & Egan, 1994). Coping is required only following events that are perceived as stressful and as such benign or positive appraisals do not require coping responses (Anshel & Delany, 2001). It is widely recognized that coping has two primary functions. One function is to regulate stressful emotions (emotion-focused coping) using strategies such as venting or acceptance, the other function is to alter the circumstances causing the distress (problem-focused coping) using strategies such as increased effort or planning. Folkman and Lazarus (1985) have repeatedly tested

the assumption that coping will usually include problem and emotion-focused functions, and found both forms of coping in over 98% of stressful encounters reported by middle-aged men and women (Folkman & Lazarus, 1980), and 96% of the self-reports of students coping with exam stress (Folkman & Lazarus, 1985).

The purpose of the present study was to monitor the primary and secondary appraisals of sport studies students over a 6-weeks duration leading up to dissertation submission.

Method

Participants

Participants were 60 volunteer Sports Studies students (from a possible sample of 111 students). All students were undertaking a final-year dissertation (male, $n = 29$; female, $n = 31$; age range: 20-32 years). Students must complete a dissertation in order to gain an undergraduate degree with honors. The prerequisite that students must attain before they can embark on a dissertation is passing a Level 2 (second year) Research Methods module. This is intended to develop key competencies for successfully conducting, evaluating, and writing up research. Once these prerequisite skills are developed, students may self-select a project title, and a supervisor to guide them through the dissertation process. Module evaluation forms collated annually suggest that the dissertation experience of student subpopulations is equitable.

Measures

Cognitive appraisal of dissertation stress. A measure of the cognitive appraisal of dissertation stress was developed through modification of the 28-item Cognitive Appraisal of Health Scale (CAHS; Kessler, 1998). The CAHS was modified by replacing the term "health problem" with the term "dissertation," for example, "I have a lot to lose because of this health problem," became "I have a lot to lose because of this dissertation." The CAHS was selected for use as it assesses the primary and secondary appraisal of stressors. Primary appraisal is measured by four subscales: challenge (6 items), threat (5 items), harm/loss (8 items), and benign/irrelevant (4 items). A 5-item subscale is designed to assess secondary appraisal (Folkman et al., 1986).

Examples of primary appraisal items include: "I feel I can handle this dissertation," "I have not been able to do what I want to do because of this dissertation," and "this dissertation doesn't affect my life." The secondary appraisal items include: "I can do something about this dissertation," and "I have to accept this dissertation."

Participants were asked to respond to each item on the modified CAHS based on their cognitive appraisal of their status over the last week. All questions are scored on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Factors scores are the sum of items divided by the number of items. Higher scores on each scale or item indicate greater agreement with that appraisal.

Brief COPE. The Brief COPE (Carver et al., 1989) measures 14 dimensions of coping: Seeking social support for instrumental reasons; seeking social support for emotional reasons; behavioral disengagement; self-blame, planning, venting of emotions, humor, acceptance, self-distraction, religion, positive reframing, substance use, active coping, and denial. Examples of questions include "I've been getting emotional support from others," "I've been giving up trying to deal with it," and "I've been taking action to try to make the situation better." All questions are scored on a 5-point Likert scale ranging from 1 (I haven't been doing this at all) to 5 (I've been doing this a lot).

Procedure

The University ethics committee approved the study. Participants signed informed consent forms at the start of the research and no incentives for participation were offered. Data were collected 6 weeks, 4 weeks, 2 weeks, and 1 week before dissertation submission. Data collection took place after scheduled lectures.

Results

Repeated measures multivariate analysis of variance was used to investigate primary and secondary appraisal of stress, and the coping strategies used by gender over time. Results indicate that there was no significant interaction effect (Week \times Gender Interaction: Wilks lambda_{57,414} = .74, $p = .92$, partial eta² = .09), and no main effect for time (Week: Wilks lambda_{57,414} = .69, $p = .57$, partial eta² = .12). A significant main effect for gender was found (Sex: Wilks lambda_{19,136} = .71, $p < .001$, partial eta² = .29). Descriptive statistics for gender differences are contained in Table 1.

Significant univariate gender effects indicated that males perceived the dissertation to be significantly more threatening and less challenging than females. There was no significant difference in the secondary appraisal of these stressors. For coping strategies, males reported using significantly more active coping, positive reframing, planning, and acceptance of the stressor, with significantly lower scores for self-blame, venting of emotions, and behavioral disengagement. In summary, results indicate that there was no significant gender interaction for coping and appraisal scores over time, however, there were significant differences in the primary appraisal of the dissertation stress and resultant coping strategies utilized by gender. It should be emphasized that a closer inspection of the raw data indicated there was considerable variation in scores over time. Although there were no significant differences, this is ascribed to random variation rather than implying scores were stable.

Discussion

Research has emphasized the importance of examining how stress responses unfold over time (Lazarus, 1993). The present study investigated

Table 1

Coping and Cognitive Appraisal Scores by Gender

	Males (<i>n</i> = 29)		Females (<i>n</i> = 31)		<i>F</i>	Effect size
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Primary appraisal						
Challenge	2.11	0.34	2.42	0.44	23.06*	-.79
Harm	3.25	0.84	3.06	0.73	3.90	.24
Threat	3.29	0.63	2.91	0.78	13.30*	.53
Benign	3.44	0.58	3.49	0.50	0.63	-.09
Secondary appraisal	2.17	0.44	2.30	0.44	3.51	-.30
Problem-focused coping adaptive						
Active coping	2.80	0.71	2.50	0.69	9.67*	.43
Denial	1.34	0.54	1.49	0.65	2.52	-.25
Positive reframing	2.44	0.62	2.20	0.60	6.32**	.39
Substance use	1.56	0.72	1.57	0.78	0.00	-.01
Seeking social support for instrumental reasons	2.49	0.66	2.31	0.55	3.70	.30
Planning	2.80	0.62	2.51	0.59	13.55*	.48
Problem-focused coping maladaptive						
Self-blame	2.08	0.67	2.32	0.75	4.67**	-.34
Behavioral disengagement	1.39	0.55	1.62	0.60	6.23**	-.40
Self-destruction	2.41	0.73	2.27	0.70	2.20	.20
Emotion-focused coping						
Venting of emotions	3.65	1.26	4.13	1.38	6.45**	-.36
Seeking social support for emotional reasons	2.12	0.72	2.19	0.62	0.08	-.10
Humor	2.47	0.86	2.31	0.76	2.93	.20
Acceptance	2.61	0.71	2.31	0.62	8.74*	.45
Religion	1.15	0.38	1.17	0.39	0.60	-.05

* $p < .05$, ** $p < .01$.

changes in primary and secondary appraisal, and coping skills utilized by sport studies students over a 6-weeks period leading up to dissertation submission. With regard to primary appraisal, results indicated that students found the dissertation to be stressful, but that this did not change significantly over time. Lazarus and Folkman (1984) suggest that situational factors will impact upon the appraisal of a stressor. For perceived stress to increase there must be changes in the stressor, or the personal and situational factors relating to task completion (Lazarus, 1991). If a situation, or elements of it, have been connected with harm or gain, this will result in stress. These connections may not necessarily have a direct source; an individual may have seen, heard, read, or otherwise inferred it (i.e., vicarious experience). As students perceive the final-year dissertation to be one of the most difficult challenges posed by an undergraduate degree (Lane et al., 2004), experiences of dissertation completion are passed down vicariously by third-year students to second- and first-year groups. Furthermore, these students begin the necessary preparatory work for dissertation completion in their second year of study. Therefore, although the dissertation was perceived to be stressful, most students had a well developed understanding of the demands of dissertation completion. It is suggested that a good understanding of the

critical tasks for successful dissertation completion enabled students to utilize coping strategies perceived as appropriate for managing dissertation stress (Lane et al., 2004).

Although results show there were no significant effects for changes in stress and coping scores over time, this should not be interpreted as indicative of stability as there were large intra-individual effects. In the present study, participants reported considerable differences in coping and appraisal scores over time. Closer inspection of the data indicate that although appraisal of the dissertation experience was not significantly different over time, perceived stress and loss appraisal tended to fluctuate over time, with increases among some individuals being counterbalanced by decreases among others.

Significant gender effects concerning primary appraisal indicated that males perceived the dissertation to be significantly more threatening and less challenging than females. Previous research has indicated that final-year students find the dissertation stressful (Lane et al., 2004), with those participants demonstrating low confidence to achieve important performance goals experiencing more stress. Lazarus (1991) suggested that personal resources (such as self-efficacy, coping efficacy, and optimism) and social resources (such as tangible, informational, instrumental, and emotional) might alleviate or exacerbate the stress experienced on an individual basis. It is possible that gender predispositions to utilize social resources provide a possible explanation for the gender differences evidenced in the primary appraisal of a dissertation. Previous research has suggested that the connection between social support seeking and coping is stronger in women (Greenglass, 1982, 1993; Frydenberg, 2002). This is partially attributed to cultural influences whereby women, more than men, are expected to be sensitive to others' needs (Greenglass, 1982). Greenglass (1993) found that women were able to utilize social support from others to develop instrumental and preventive coping strategies. Furthermore, as an undergraduate dissertation typically incorporates the use of participants and thus necessitates social support, this could exacerbate the impact of social resources on primary appraisal.

The differences demonstrated in the primary appraisal of the dissertation may have contributed to the differences evidenced in the coping strategies utilized by gender. Male students used problem-focused strategies including active coping and planning, and the emotion-focused strategy of acceptance significantly more than females. Female students used the emotion-focused strategy venting, and maladaptive strategies such as self-blame and behavioral disengagement significantly more than males. These results provide partial support for those of previous research in academic settings that have also found that females are more likely to utilize emotion-focused coping in response to stress than their male counterparts (Kiran, Shanaz, & Subbakrishna, 2000; Piko, 2001). Kiran et al. (2000) reported that females preferred distress-reducing strategies and social-support utilization, while males reported active behavioral methods including high risk coping behaviors. Piko (2001) found that

males employed a self-management or problem-orientated approach, whereas females tended to use more social support to manage stressful or difficult situations.

What is interesting to note is the greater use of maladaptive strategies (self-blame and behavioral disengagement) by females. Some researchers (Gould, Udry, Bridges, & Beck, 1997; Khrono, 1993) suggest that classifying coping may oversimplify the coping process (e.g. problem and emotion-focussed coping). Coping can be effective or ineffective, with the outcome seemingly dependent on a number of personal and situational factors (Anshel, Kim, Kim, Chang, & Eom, 2001). As it is not possible to prejudge coping strategies as being universally adaptive or maladaptive, the concern should be for whom and under what circumstances a particular coping strategy has adaptive consequences (Matthews & Zeidner, 2000). The strategies of avoidance and distancing are often viewed as maladaptive but may be adaptive under certain conditions. As data were collected in the final 6 weeks prior to dissertation submission, avoidance-coping might be a suitable response considering the stressors are short term and uncontrollable (Aldwin, 1994). This is supported by evidence showing that females appraised the dissertation as a challenge as opposed to a threat.

Conclusion

Findings indicate the importance of assessing the interaction between primary appraisal and secondary appraisal. Students with a positive appraisal (challenge) of the stressor were less inclined to use adaptive coping strategies such as planning and more inclined to use those coping strategies traditionally described as maladaptive. It is clear that the current classification of coping strategies as adaptive or maladaptive may lead to erroneous conclusions. It would appear that further research is needed to continue the exploration and classification of coping behaviors in order to aid our understanding of the relative contributions of personal and situational factors on coping effectiveness.

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