STRESS, ATTRIBUTIONS, AND COPING: PREDICTORS OF EMOTIONAL EXHAUSTION IN MALE POST-SECONDARY INSTRUCTORS

by

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This study used a learned-helplessness model to examine burnout. Two hierarchical multiple regression analyses tested the extent to which job stress, attribution style, and coping strategies were associated with burnout (i.e., emotional exhaustion) in male instructors (N = 108), aged 30 and 55 (M = 44.1), employed at a post-secondary institution in western Canada.

It was expected that those attribution styles and coping strategies associated with greater "personal" and "universal" helplessness would be associated with greater emotional exhaustion, whereas those associated with greater "morale" and "enthusiasm" would be associated with lower emotional exhaustion.

Specifically, greater characterological (internal-stable) and task difficulty (external-stable) attributions were expected to be associated with greater emotional exhaustion under high-stress conditions. Under low-stress conditions, greater behavioural (internal-unstable) attributions were expected to be associated with greater emotional exhaustion. Greater emotional exhaustion was also expected to be associated with greater escape-cognitive and escape-active coping ratios, but with lower control-cognitive and control-active coping ratios.

Those attribution styles and coping strategies associated with personal helplessness, i.e., characterological (internal-stable) attributions and escape-cognitive coping, were expected to make stronger contributions to emotional exhaustion than were those associated with universal helplessness, i.e., task-
difficulty (external-stable) attributions and escape-active coping. In addition, control-cognitive coping was expected to be more negatively associated with emotional exhaustion than was control-active coping.

Results indicated that greater escape-active coping was associated with greater emotional exhaustion. The contribution of the universal-helplessness product-term (stress by external-stable attributions) approached significance. Under high-stress conditions, greater task difficulty (external-stable) attributions were associated with greater emotional exhaustion.

The enthusiasm product-term (stress by internal-unstable attributions) also contributed significantly to emotional exhaustion. Under low-stress conditions, greater behavioural (internal-unstable) attributions were associated with greater emotional exhaustion. The negative association between control-cognitive coping and emotional exhaustion approached significance.

Results suggested that burnout may involve universal rather than personal helplessness. This finding was not anticipated. Results also supported the theory that internal-unstable (behavioural) attributions may represent a vulnerability to burnout. Longitudinal studies would need to be conducted to test any causal implications of the present findings.
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Dedication

E. George Stephens (1920-1991)

This thesis is dedicated to my father who, in facing a diagnosis of cancer, demonstrated the wisdom of his optimism.
Introduction

Burnout is believed to threaten the professional well-being of teachers, social services workers, nurses, and other health-care professionals, along with the welfare of the students, clients, and patients they serve. Since the term "burnout" was first coined (Freudenberger, 1974), the burnout syndrome has increasingly come under scrutiny of researchers (Kahill, 1988). Yet despite two decades of research, we know little more today about how to remedy the syndrome than we did in the early 1970s. The failure of the burnout research to provide remedies for the burnout syndrome indicates an underlying problem in the literature: burnout lacks a clear definition and a sound theoretical model by which research may be guided (Savicki & Cooley, 1983).

The burnout literature currently offers no consensus on the etiology of the burnout syndrome. Although an accepted etiology would not necessarily give rise to accepted remedies (Savicki & Cooley, 1983), nevertheless an established model of burnout would encourage the rationalization of contradictory findings and help focus the search for remedies.

Presently, the best operational definition of burnout is the Maslach Burnout Inventory (MBI, Maslach & Jackson, 1981). Maslach and Jackson validated the MBI by comparing scores on the MBI with those on the Job Dissatisfaction Scale (Hackman & Oldham, 1974) for social service and mental health-care workers (N = 91). Because job dissatisfaction accounted for less than 6%
of variance in any of the MBI subscales, Maslach and Jackson concluded that burnout is distinct from job dissatisfaction.

A burnout model put forward by Savicki and Cooley (1983) suggests that burnout may bear more striking similarities to learned-helplessness. Burnout and learned-helplessness are both believed to involve dysfunctional responses to frustration and passive coping strategies, as well as long-term negative emotional consequences. However, the learned-helplessness literature, unlike the burnout literature, boasts a well-researched theoretical model and tested remediation strategies. Were borrowing from the learned-helplessness model justified, our understanding of the burnout syndrome might thereby be significantly increased.

Learned-helplessness studies have generally taken depression as their criterion variable (Sweeney, Anderson, & Bailey, 1986). In the face of non-contingency events, depression has been associated with and predicted by a "pessimistic" (internal-stable-global) attribution style (Peterson & Seligman, 1984).

To test whether the learned-helplessness model helps explain burnout, two hierarchical MR regression analyses were used to examine emotional exhaustion. Teacher stress was entered first as an indicator of non-contingency events; attribution styles and coping strategies consistent with learned-helplessness were tested for their additional contributions to burnout. Those attribution styles and coping strategies consistent with personal and universal helplessness were expected to be associated with greater emotional exhaustion under high-stress conditions. In addition, those consistent with greater effort were expected to
be associated with greater emotional exhaustion under low-stress conditions.

The responses of male post-secondary instructors were assessed using a cross-sectional survey design. Although post-secondary instructors are believed to be highly-stressed, they are under-represented in the literature (Seiler & Pearson, 1984-1985).
In the two decades since the term burnout was first coined, researchers have, with varying degrees of success, attempted to define burnout and to identify its causes, stages, and appropriate remediation strategies. Originally, the term burnout meant "to fail, wear out, or become exhausted by making excessive demands on energy, strength, or resources" (Freudenberger, 1974, p. 159). Freudenberger noted that when highly-motivated social services workers were placed in frustrating work situations, they began a long and costly psychological decline. This decline proceeded from enthusiasm to frustration, stagnation, and apathy (Edelwich & Brodsky, 1980). Once burned out, workers "often fail[ed] to see their situation as stemming from inside themselves" (Freudenberger, 1977, p. 26). They thus became problems not only to themselves, but often to their employers, co-workers, and clients as well.

Definitions of Burnout

Most empirical research has operationally defined burnout as a cluster of symptoms arising in response to stress. Teacher burnout, for example, has been defined as a syndrome caused by prolonged teacher stress and characterized by physical, emotional, and attitudinal exhaustion (Cunningham, 1983). Symptoms included in the burnout cluster have been diverse. Einsiedel and Tully (1981) listed 84 burnout symptoms (with some overlapping), and Carroll and White (1982) listed 47 separate symptoms.
The most widely-used measure of burnout, the *Maslach Burnout Inventory* (Maslach & Jackson, 1981), identifies three symptom factors: emotional exhaustion, low personal accomplishment, and depersonalization. It measures these symptoms in terms of their frequency and intensity. As functional definition of burnout, the MBI does little, however, to clarify the process of the syndrome's development (Savicki & Cooley, 1983). It leaves researchers open to the charge of defining burnout simply as that which burnout instruments assess (Herr & Cramer, 1984) and perpetuates the risk of spurious findings. Criterion measures of emotional stress, such as the MBI, are likely to correlate highly with other instruments that are also largely checklists of negative emotions (Kahill, 1988).

Lee and Ashforth (in press) have preferred to view burnout as a sequence, rather than as a cluster of symptoms. They recently tested two models of burnout (Golembiewski, Munzenrider, & Stevenson, 1986; Leiter & Maslach, 1988) in an attempt to identify a sequential ordering of MBI factors. Although their results were inconclusive, a post-hoc analysis allowed them to revise the Leiter and Maslach model and to suggest that, among line supervisors and managers in the human service sector (N = 233), emotional exhaustion leads directly to both depersonalization and diminished personal accomplishment. Lee and Ashforth underscored the centrality of emotional exhaustion in the burnout process (cf. Gaines & Jermier, 1983; Maslach, 1982; Shirom, 1989), noting that personal accomplishment may be only weakly related to emotional exhaustion (cf. Maslach & Jackson, 1981).
Competing Explanations of Burnout

In discussing the burnout process, most researchers have focused on the possible causes of the syndrome. With respect to these causes, they have disagreed about the relative importance of the individual and the situation. Freudenberger (1974, 1980) identified both individual and situational causes of burnout, whereas Maslach (1977) argued that burnout originates mainly in the situation. Consistent with Maslach's analysis, Pines and her colleagues (Pines, Aranson, & Kafrey, 1981) distinguished burnout from depression, on the premise that burnout is more situational and depression more personal in etiology. They cautioned against identifying personal causes for burnout for fear that blaming a burnout victim might trigger depression in that individual.

As yet, issues concerning the etiology of burnout have not been adequately tested; most empirical studies of burnout have been cross-sectional in design. Reviewing the first decade of burnout research, Perlman and Hartman (1982) noted that, although the majority of articles identified both individual and organizational causes and foci of solutions for the syndrome, those citing only one cause or solution favoured the organization over the individual by a ratio of almost 15:3. Among organizational causes of burnout, role ambiguity and role conflict (Crane & Iwanicki, 1986), task overload (Berkley Planning Associates, 1977; Pines & Kafry, 1978; Pines & Maslach, 1978), poor social support (Berkley Planning Associates, 1977; Pines & Kafry, 1978), and low influence over policy decisions (Barad, 1979; Maslach & Pines, 1977) have all been cited.
Popular though situational explanations of burnout have been, they nevertheless beg a compelling question posed by Savicki and Cooley (1983): "Why is it that some individuals in some work settings flourish, and others become exhausted" (p. 235)? Though a variety of personal variables have been associated with burnout, no clear answer to this question has emerged. The association of burnout with seemingly inconsistent personal variables, such as a type A personality (Nagy & Davis, 1985) and an external locus of control (Holt, Fine, & Tollefson, 1987; McIntyre, 1984) suggests, however, that burnout involves a process of personal change.

Savicki and Cooley (1983) looked for an answer to their question in the very process of attributing causes. If blaming the burnout victim potentially aggravates the syndrome, could it be that self-blame is itself a personal variable contributing to burnout? Self-blame and other attributions of responsibility involve both the person and the situation. As situationally sensitive catalysts of personal change, attributions have been implicated by Savicki and Cooley in the burnout process.

**Attributions as Predictors of Burnout**

Savicki and Cooley (1983) suggested that two of the MBI subscales, depersonalization and personal accomplishment, are confounded with attributions. They placed depersonalization at the high-burnout end of their "identification with the client" (1983, p. 232) attribution dimension and low personal accomplishment at the high-burnout end of their "therapeutic locus of control and personal accomplishment" (1983, p. 232) attribution dimension (see Figure 1). Together, these two
Identification with the Client

<table>
<thead>
<tr>
<th>Over-identification</th>
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<td>loss of objectivity</td>
<td>concern</td>
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<td>personal involvement</td>
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<tr>
<td>in outcome</td>
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<tr>
<td>blurring or distinctions</td>
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<td>between client and therapist</td>
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<td>emotional detachment with no loss of objectivity and empathy</td>
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<td>loss of empathy and caring</td>
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<td>no personal involvement in outcome</td>
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<td>loss of objectivity</td>
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Therapeutic Locus of Control

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<td>Realistic assessment of therapist's role in change process</td>
<td>Low level of perceived control</td>
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<tr>
<td>full responsibility for outcome</td>
<td>emotional involvement in outcome</td>
<td>no responsibility for outcome</td>
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<tr>
<td>emotional involvement in outcome</td>
<td></td>
<td>emotional detachment</td>
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Figure 1. Individual Attitudes and Perceptions in the Burnout Process

dimensions were taken to reflect the degree of personal responsibility a therapist assumes for outcomes (Cooley & Savicki, 1987).

According to Savicki and Cooley (1983), extreme attributions for involvement (identification with clients) and control (personal impact on outcomes) are both undesirable. Such extremes indicate either elements of burnout or a predisposition to the syndrome. Under stressful conditions, attributions reflecting over-involvement may predispose individuals to depersonalization; those reflecting over-control may predispose them to low personal accomplishment.

Savicki and Cooley (1983) explained the mechanism by which attributions may lead to burnout. Over-involved workers likely confuse boundaries between themselves and others, attributing the causes of change in their clients to themselves in such a way that "the client's problems and successes become the therapist's problems and successes" (1982, p. 417). Although a therapist's over-involvement may seem altruistic initially, as burnout progresses it leads to defensive depersonalization of clients, i.e., to a perception that the client is an adversary or merely an object in the therapeutic process.

Enthusiastically over-controlling individuals, for their part, initially aspire to "save the world" (1983, p. 233). As they burnout, however, over-controlling individuals come to see themselves as having little impact on outcomes. They thus experience the external locus of control that Savicki and Cooley associate with low personal accomplishment (Savicki & Cooley, 1982).
According to Savicki and Cooley (1983), a moderate degree of involvement and control is functional. Unless moderation is maintained, stress in the form of negative events triggers a shift between the extremes on the involvement and control dimensions. A predisposition to burnout then develops into the full-blown syndrome. The more extreme the attributions, the more ineffective the therapist will be, and the more likely stress in the form of negative events is to precipitate a dysfunctional attributional shift (Brickman et al., 1982; Savicki & Cooley, 1982).

**Attributions in Learned-Helplessness Theory**

By implicating attributions in the burnout process, Savicki and Cooley (1983) created hypotheses similar to those found in the learned-helplessness literature (Peterson & Seligman, 1984). According to the reformulated learned-helplessness theory, characterological attributions for uncontrollable negative events, i.e., attributions that are internal, stable, and global, both correlate with and predict learned-helplessness depression when negative events occur. Attributing uncontrollable negative events to internal, stable, and global causes involves blaming one's character for failures. To make such attributions for negative events, individuals must characterize causes of failure as residing in themselves (an involvement issue), as being constant (likely a control issue), and as generalizing across situations, i.e., "it's me; it's going to last forever; and it's going to affect everything I do" (Peterson & Seligman, 1984, p. 350).
Although considered traitlike, attributions are not considered invariant (Peterson & Seligman, 1984). Peterson and his colleagues (1981) explained the possible etiology of characterological attributions. Such attributions may arise as a logical response to persistent events. Initially, individuals who make internal attributions will likely attribute the causes of events to their behaviour, an internal, unstable, specific attribution. But as the number of similar events increases, they will come to adopt characterological, i.e., internal, stable, global, attributions, because the constant factor in a series of similar events, similar over time or over situations, is one's character. Among female undergraduates (N = 87), characterological explanations for negative events increased with the number of negative events reported for the previous year. In the face of negative events, attributions seem to become more internal and stable.

In any attributional shift from behavioural to characterological attributions, responses on the internal/external or locus attribution dimension remain constant. Whether the critical shift occurs on the stability or globality dimension is unclear (Peterson, Schwartz, & Seliman, 1981). In either case, those who blame their characters for negative events, making internal-stable-global attributions, have been found, after a series of negative events, to cease trying to avoid such events and to succumb to the cognitive, motivational, and emotional deficits of learned-helplessness depression (Sweeney et al., 1986).
Those making external-stable-global attributions for negative events are also expected to suffer some helplessness deficits under the stress of non-contingent events (Abramson, Seligman, & Teasdale, 1978). Rather than believing themselves to be personally involved in the causes of negative events, however, external attributors believe instead that relevant others would also fail under similar circumstances. They thus secumb to "universal" rather than "personal" helplessness, experiencing cognitive and motivational deficits, but not the self-esteem deficits of the learned-helplessness depressed.

Styles of attributing negative events to one's behaviour (an internal-unstable attribution) or to external causes have been found to be inconsistent with personal helplessness or learned-helplessness depression (Peterson et al., 1981). Those who make internal attributions for failure may defend against depression in the face of uncontrollable negative events, it seems, either by maintaining behavioural attributions in the face of stress or by adopting more external ones.

Support for the Locus-Attribution Hypothesis

Savicki and Cooley's (1983) burnout hypotheses, like those of learned-helplessness theory, indicate a defensive shift from internal to external attributions in the face of stress. According to Savicki and Cooley's locus hypothesis, over-involved individuals are predisposed to depersonalize, i.e., to become less personally involved in a client's change, as they encounter negative events and begin to burn out.

Longitudinal research. Wade, Cooley, and Savicki's (1986) findings are consistent with the claim that over-involved
individuals are vulnerable to burnout. In a longitudinal study, Wade and his colleagues tested the relationship between burnout and personal responsibility, as measured by the Attributions of Treatment Outcome measure (ATO, Cooley & Savicki, 1987). Personal responsibility focuses largely on blaming oneself for negative outcomes. According to Cooley and Savicki, it reflects both involvement and control. Over the course of a year, social-services workers (N = 46) who were most prone both to accept personal responsibility for the outcomes of their clients and to blame themselves when their clients did not improve either increased their levels of burnout on two or more of the six MBI subscales or remained high on two or more of the subscales (p < .05) (Wade et al., 1986). As reflected in the personal responsibility factor, involvement seems to have predicted burnout over the course of a year. No specific reference was made in this study to associations between personal responsibility and depersonalization; nor were associations between personal responsibility and final burnout scores reported.

Wade and his colleagues' (1986) findings were limited by the nature of the ATO (see Appendix C). Although the personal responsibility factor was taken to reflect internal attributions, internal and external attributions on the ATO failed to covary in any consistent way among helping professionals (N = 94). The external sources of change factor, designed to reflect external attributions for positive and negative events, was largely unrelated, for example, to the personal impact factor, a factor designed to reflect internal attributions for positive and
negative events. Although the personal responsibility did correlate moderately with the personal impact factor, $r = .39$, $p < .05$, the mean inter-factor correlation among all the ATO factors was a nonsignificant .22.

Cooley and Savicki (1987) accounted for the lack of covariance among ATO factors by concluding that helpers evaluate internal and external factors for producing change in clients independently. However, the lack of covariance may instead be due to the mixing of attributions for positive and negative events on the ATO. Attributions for positive and negative are not expected to covary in unison (Peterson & Seligman, 1984). In the interest of gaining stronger results, measures of attribution generally separate attributions for good and bad events more clearly than do either the ATO or locus of control measures. On the ATO, the personal responsibility factor favours negative events; whereas three items on this factor refer to negative events, only one refers to positive events (see Appendix C).

Despite the limitations of the ATO, Wade and his colleagues (Wade et al., 1986) nevertheless found support, using the ATO, for their hypothesis that high involvement predisposes respondents to burnout.

**Cross-sectional research.** The related hypothesis that high involvement shifts to low involvement in the burnout process cannot be tested adequately by means of a cross-sectional design. Nevertheless, cross-sectional research can indicate the degree to which burnout is associated with internal and external attributions. Savicki and Cooley (1983) expected that burnout, and particularly depersonalization, would be negatively
associated with involvement. This expectation, however, was not confirmed. Among helping professionals (N = 94), the propensity to take personal responsibility in the face of failure was positively associated with emotional exhaustion, r = .28, p < .003, frequency, and r = .18, p < .046, intensity; it failed to correlate significantly with depersonalization (Cooley & Savicki, 1987).

Quigley and her colleagues (Quigley, Slack, & Smith, 1987) similarly found high involvement in work to be positively associated with emotional exhaustion. Structured interviews with secondary-school coaches (N = 75) showed that excessive involvement was a major source of burnout. Here, involvement suggested both time commitment and work overload; it was not specifically related to a particular attribution style. Nevertheless, Quigley and her colleagues drew a connection between practical and emotional over-involvement when they suggested that the greater emotional exhaustion among single coaches as compared to married coaches (single M = 33.2; married M = 28.5) might be due to the tendency of single coaches to over-identify with their work. The highly-involved teacher coaches in Quigley and her colleagues’ study experienced more emotional exhaustion and greater personal accomplishment, but less depersonalization, than did other occupational groups.

Maslach and Jackson (1981) also reported a positive association between involvement with emotional exhaustion. They found that the MBI's optional involvement factor correlated positively with emotional exhaustion, frequency, r = .40, p < .001, and intensity, r = .44, p < .001, among human services
professionals \((N = 1025)\). It also correlated positively with depersonalization, \(r = .09, p < .05\), frequency, and \(r = .17, p < .001\), intensity, and with personal accomplishment, \(r = .14, p > .05\), frequency, and \(r = .21, p < .05\), intensity.

The ATO's external source of change factor, on the other hand, correlated negatively with depersonalization, \(r = -.18, p < .046\), and nonsignificantly with emotional exhaustion among helping professionals \((N = 94)\). This finding could be taken to suggest that external attributions for negative events are unrelated to emotional exhaustion and negatively associated with depersonalization. However, the nature of the external attributions tapped must be taken into account. Unlike the ASQ (Peterson et al., 1982) frequently used in learned-helplessness research, the external source of change factor mixes positive and negative events (see Appendix C). Thus external attributions as measures by the ATO may involve empowering rather than to depersonalizing others.

Using the ASQ (Peterson et al., 1982) to measure of pessimism, McMullen and Krantz (1988) tested the association between burnout and attributions. Their pessimism variable measures the difference between composite internal-stable-global attributions for negative events and composite external-unstable-specific attributions for positive events. Among female day-care workers \((N = 67)\), pessimism correlated positively with both emotional exhaustion, \(r = .23, p < .05\), and depersonalization, \(r = .24, p < .05\). Among women, both emotional exhaustion and depersonalization seem to be associated with internal attributions in the face of negative event.
Again, however, results must be interpreted cautiously. Because McMullen and Krantz's (1988) pessimism variable includes two dimensions besides the internal/external (locus) attribution dimension, it reflects not only internal, but also stable and global attributions for negative events, and not only external, but also unstable and specific attributions for positive events. A summed score across three attribution dimensions confounds results with respect to any one dimension's correlation with either emotional exhaustion or depersonalization. Nevertheless, the sort of pessimism variable used by McMullen and Krantz is generally taken in learned-helplessness research to reflect internal attributions for negative events (Sweeney et al., 1986).

**Theory.** Although not supported in burnout research, Savicki and Cooley's (1983) claim that depersonalization represents a defensive strategy for dealing with distressing self-blame finds support in burnout theory (Kahill, 1988; Lee & Ashforth, in press). Lee and Ashforth suggested that depersonalization may be a strategy for coping with emotional exhaustion. Ogus and her colleagues (Ogus, Greenglass, & Burke, 1990) suggested that this strategy may be particularly salient among men.

Relative to women, men have tended report less burnout (Etzion & Pines, 1986), less emotional exhaustion (Maslach & Jackson, 1981), and less depression (Greenglass & Burke, 1988), as well as less involvement, and greater personal accomplishment (Maslach & Jackson, 1981). They have also tended, however, to report higher depersonalization (Anderson & Iwanicki, 1984; Greenglass & Burke, 1988; Maslach & Jackson, 1981; Schwab & Iwanicki, 1982). Although men seem to suffer fewer emotional-
exhaustion and personal-accomplishment deficits than do women, they nevertheless seem to succumb to greater depersonalization.

As a means of coping with emotional exhaustion, depersonalization may have different implications for men and for women. In a study of teachers (N = 470), men who depersonalized tended to maintain internal-control coping and to cope by attempting to maintain a sense of meaning more than did their female counterparts (Ogus et al., 1990). Nevertheless, they showed significantly greater general deficits, reporting poorer overall lifestyles and greater dependency on medication.

In response to stress, men may be both more resistant and more reactive to the debilitation of personal helplessness than are women. Unlike girls, boys seem to be conditioned by their teachers to believe their behaviour can change outcomes (Dweck & Licht, 1980). Teachers tend to criticize boys with behavioural attributions and girls with the more damaging characterological ones. When presented with unsolvable problems, fourth-grade boys gave explanations for failure that were more external, unstable, and specific than were those given by girls. Their responses, "I wasn't trying hard", "I wasn't paying attention", and "I don't care about your test" (Peterson & Seligman, 1984, p.370) seem to reflect not only behavioural attributions, but also a defensive loss of trust or concern.

In the context of locus-of-control studies, males are suspected of reacting defensively to failure by using blame-projecting strategies. Rotter (1975) identified men who were highly involved in controlling outcomes, yet reported an external locus of control. He suggested that such men were "defensive"
externals, i.e., achievement-oriented internals who adopt external-control attitudes "falsely", using blame-projection to save face when failure occurs or seems imminent.

Hochreich (1974) suggested that such male "defensive externals" might be distinguished from true externals by means of their low-trust scores. Low-trust externals, she suggested, would be more defensive and more "extremely external" or blaming than more congruent externals.

Like low trust, depersonalization may also distinguish defensive from congruent males. If depersonalization is a defensive coping strategy, men who depersonalize may be found to show greater blaming tendencies in helplessness conditions than either internals or more congruent externals.

Summary. Although Savicki and Cooley's longitudinal research (Wade et al., 1986) supported their hypothesis that high involvement leads to burnout (Savicki & Cooley, 1983), cross-sectional research did not support the related hypothesis that burnout is associated with low involvement. Instead, cross-sectional research indicated that involvement is positively associated with emotional exhaustion, and perhaps, to a lesser degree, with depersonalization as well (Cooley & Savicki, 1987; McMullen & Krantz, 1988; Maslach & Jackson, 1981; Quigley et al., 1987).

Burnout theory suggests that depersonalization may be a defensive coping mechanism for dealing with the strain of emotional exhaustion (Lee & Ashforth, in press). More than women, men seem conditioned to both resist and react to the threat of helplessness (Hochreich, 1974; Rotter, 1975). The
higher depersonalization scores among men may reflect defensiveness in coping with the distress of emotional exhaustion.

Support for the Control-Attribution Hypothesis

According to learned-helplessness theory, helplessness deficits occur only in the context of control issues. For helplessness to follow, respondents must believe not only that the causes of negative events reside within themselves, but also that they are unable to influence these negative events (Peterson & Seligman, 1984). In their control hypothesis, Savicki and Cooley (1983) suggested that high internal control both predicts burnout and shifts to low control, specifically to low personal accomplishment, under high-stress conditions.

Longitudinal research. Through longitudinal research, Savicki and his colleagues (Wade et al., 1986) found support for the first aspect of their control hypothesis. As indicated, they found that personal responsibility predicted burnout over the course of a year (Wade et al., 1986). Because the ATO personal-responsibility factor reflects self-blame, Cooley and Savicki (1987) assumed that the scale also reflects control over outcomes. On the basis of this assumption, they concluded that high experienced control predicts burnout.

Although the conclusion that high experienced control predicts burnout may be sound, it is poorly based if it is based on the assumption that personal responsibility implies high experienced control. In the face of negative events, only behavioural (internal-unstable) attributions need imply personal control. Because the ATO does not distinguish between stable and
unstable causes, it cannot distinguish between behavioural and characterological attributions. The reported association between personal responsibility and emotional exhaustion (Cooley & Savicki, 1987) cannot therefore, in itself, be taken to demonstrate that high control predicts burnout.

According to learned-helplessness theory (Peterson et al., 1981), however, behavioural attributions for negative events are more likely to be operative than are characterological attributions in the early phase of learned-helplessness. By drawing on learned-helplessness theory, the results reported by Wade and his colleagues (1986) can be taken to support the conclusion that high control predicts burnout.

Cross-sectional research. To some extent, Cooley and Savicki's (1987) cross-sectional research also supports their related hypothesis that burnout is associated with low control. Although personal responsibility failed to correlate significantly with personal accomplishment among helping professionals (N = 94), it correlated significantly with emotional exhaustion, r = .28, p < .003, frequency, and r = .18, p < .046, intensity.

If personal responsibility were assumed to imply high control, Cooley and Savicki's (1987) finding would lead to the conclusion that high control is associated with emotional exhaustion. Peterson and his colleagues (1981), however, tested and disproved such an assumption. They showed that self-blame need not imply high control. Among freshman females (N = 87), guilt was more strongly associated with characterological attributions than with behavioural attributions for negative
events, yet characterological attributions were also associated with greater depression. Characterological attributions in helplessness conditions seem to be associated with both a sense of high responsibility and response deficits such as might be expected among those reporting an external locus of control.

To assume, as Cooley and Savicki (1987) do, that high personal responsibility in the face of burnout implies high control is to confuse of causal-attribution and locus-of-control issues. Although both attribution and locus-of-control constructs deal with control issues, the foci of their respective measures differs (Brickman et al., 1982; Marsh, 1984; Wong & Sproule, 1984). Measures of causal-attribution focus on control over the causes of events; measures of locus of control focus on control over events themselves. Attributions tap the causes of a person's control (Seligman, Abramson, Semmel, & von Baeyer, 1979).

Weiner's (1972, 1974) two-dimensional taxonomy for causal attributions helps clarify the distinction between causal attributions and locus of control. Weiner classified causes of events into four types, representing the four combinations of the endpoints of the locus and stability dimensions. According to this taxonomy, ability, an internal-stable cause, is less internally controllable than is effort, an internal-unstable cause. Task difficulty, an external-stable cause, and luck, an external-unstable cause, are both taken to imply low internal control.

As Weiner's (1972, 1974) attribution factors, i.e., ability, effort, task difficulty, and luck, demonstrate, control over the
causes of events need not imply control over the events themselves. One might, for example, experience low control over one's level of ability and thus low control over the causes of events, yet through one's ability nevertheless experience high control over events themselves.

Two considerations appear to influence the experience of control over events: the nature of the event itself and the nature of attributions for the event. Locus-of-control responses seem to be determined (a) by whether the event is positive or negative and (b) by whether the cause of the event is deemed controllable. If a positive event is attributed to one's level of ability, a high sense of internal control over events likely results, along with an attitude akin to pride. If a negative event is attributed to one's level of ability, a low sense of internal control over events likely results, along with an attitude akin to shame. Similarly, if a positive event is attributed to one's effort, a greater sense of internal control over events will likely result than if a negative event is attributed to one's lack of effort. These latter "behavioural" attributions likely give rise to attitudes akin to self-esteem and to guilt.

The expected association between Weiner's attribution styles and self-concept was demonstrated by Marsh (1984). Among fifth-grade students (N = 559), greater success/ability and success/effort attributions were associated with greater academic self-esteem, both $r_s = .49$. Greater failure/ability and failure/effort attributions, on the other hand, were associated with lower academic self-esteem, $r = -.38$ and $r = -.26$. 
respectively (all ps < .05). Failing through lack of ability appeared more damaging to self-esteem than did failing through lack of effort. Consistent with learned-helplessness theory, failing for external reasons was nearly unassociated with academic self-concept.

Like self-esteem, depression has also been predicted by two-dimensional factor attributions. Sweeney and his colleagues (Sweeney et al., 1986) demonstrated, through a meta-analytic review of the learned-helplessness literature, that ability attributions for failure have been associated with depression. When two-dimensional factors were used to predict depression, the effect size for ability (.32) was greater than was the effect size for effort (.08); similarly the effect size for luck attributions (-.17) was greater than was that for task difficulty (-.07). Ability, like characterological attributions, were those most strongly associated with depression.

As tested by the learned-helplessness-depression hypothesis, characterological (internal-stable) attributions for negative events imply both high involvement in the causes of events and low control over events themselves. Maslach's (1982a) description of burned-out health-care workers suggests that such workers, like helplessness victims, make characterological attributions for negative events. The workers Maslach describes seem to blame their characters for negative events that lie beyond their control:

The perception that "I am not cut out for this job"; "Something is wrong with me"; or "I have become a cold, unfeeling person" is not uncommon and appeared to be one
factor that propelled several professionals into some form of individual therapy or led them to quit their job. Even when they recognized the special situational stresses of their work [italics mine], people were still prone to lay blame on some flaw within themselves ("I should have been able to handle it"). Consequently, they experienced a sense of failure and a loss of self-esteem, and a state of depression would often set in. (p. 239).

Should burned-out workers be found to make characterological attributions for failure, they would likely fit Maslach's description better than Freudenberger's (1977) description of workers who "find fault with everything and everyone around them, complaining about the organization and reacting cynically to whatever is suggested or attempted by others (p. 26)."

Through reference to learned-helplessness theory, the reported association between personal responsibility and emotional exhaustion (Cooley & Savicki, 1987) can be taken to support Savicki and Cooley's (1983) control-attribution hypothesis. However, Cooley and Savicki failed to find a significant correlation between personal responsibility and personal-accomplishment. Only the personal impact factor on the ATO correlated significantly with personal accomplishment, intensity, $r = .24, p < .05$ (Cooley & Savicki, 1987).

Although the ATO does not adequately distinguish between stable and unstable attributions, locus-of-control measures more directly assess the experience of control, albeit mixing control for positive and negative events. An external locus of control, as measured by the Adult Nowicki-Strickland Internal-External
Control Scale (ANS-IE, Nowicki & Strickland, 1973), correlated positively with emotional exhaustion, frequency, $r = .17$, $p < .001$ and with low personal accomplishment, frequency, $r = .11$, $p < .05$, among special-education teachers ($N = 469$) (McIntyre, 1984). This finding supports Savicki and Cooley's (1983) hypothesis that burnout involves low control.

Using Rotter's (1966) I-E Locus of Control scale, Capel (1987) also found an association between burnout and low control. Among a number of predictors, i.e., years at present position, hours of extra-curricular activities, frequency with which work is taken home, years of teaching experience, number of different classes, role ambiguity, role conflict, and external locus of control, an external locus of control best predicted emotional exhaustion and low personal accomplishment among secondary teachers ($N = 78$). Canonical loadings showed that locus of control contributed most to the overall relationship between the predictors and burnout. Depersonalization did not make a significant contribution to the multivariate relationship. Among the low to moderately stressed teachers assessed in this study, depersonalization may have been moderately effective as a coping measure for minimizing burnout deficits.

Holt, Fine, and Toffelson (1987) found, among female elementary teachers ($N = 192$), that those who reported high emotional exhaustion reported a more external locus of control as measured by Rotter's (1966) I-E Locus of Control scale. However, these findings failed to reach statistical significance.

Locus-of-control research. Locus-of-control studies have supported not only the hypothesis that burnout is associated with
low control, but also the related hypothesis that high experienced control predisposes respondents to low control in the face of negative events. In experimental studies, a high internal locus of control has been found, albeit somewhat inconsistently, to predispose respondents to helplessness. Hiroto (1974) found, among introductory psychology students ($N = 96$), that those reporting an external locus of control were more vulnerable than were internals to behavioural helplessness outcomes. However, Pittman and Pittman (1979) showed that, among the same population ($N = 90$), high internals under high-helplessness conditions were more prone to behavioural and emotional helplessness deficits than were high externals.

Pittman and Pittman (1979) subjected groups measuring high and low, i.e., below 8 or above 15, on Rotter's Internal-External Locus of Control scale for good and bad events, to high, low, or no-helplessness training. Those with a high internal locus of control had significantly improved performance under low-helplessness training, but worse performance under high-helplessness training. Those with a high external locus of control showed a more moderate and linear pattern of decreasing performance effectiveness as a function of helplessness training.

Both groups in the Pittman and Pittman (1979) study showed increased hostility under low-helplessness conditions, but high-helplessness respondents showed less hostility than did low-helplessness respondents. Both groups also showed increased depression under high-helplessness conditions, although high internals showing the most marked depressive responses.
High-helplessness respondents tended to believe that, although they could not solve the problems, others could. They thus seemed to attribute the cause of their failure or lack of control to themselves and therefore to be suffering from personal helplessness. High internals showed the greatest helplessness. However, no distinction between high internals and high externals was made with reference to the assessment of others' ability to solve problems.

In the context of experimental and longitudinal designs, attributions may be assumed to interact with events to determine locus of control responses (cf. Weiner 1972, 1974). Under low-stress conditions, an internal locus of control likely suggests behavioural (internal-unstable) attributions for negative events. An external locus of control likely suggests luck (external-unstable) attributions. Under high-stress conditions, an internal locus of control likely suggests again behavioural (internal-unstable) attributions for negative events. An external locus of control, on the other hand, likely suggests either task difficulty (external-stable) or the more damaging characterological (internal-stable) attributions for negative events.

In a longitudinal study of middle-aged male respondents (N = 1262), Krause and Stryker (1984) found that extreme internal locus-of-control respondents were more prone to psychophysiological distress than were moderate internals. They found vulnerabilities among extreme and moderate external locus-of-control respondents as well. Only moderate internals showed resilience to stress (all ps < .05). Krause and Stryker measured
stress as the occurrence of stressful job and economic-related events. They divided the internal and external locus-of-control scores at plus and minus one standard deviation from the mean, but they did not separate high and low-stress groups. On the basis of their findings, Krause and Stryker concluded that effective coping actions were not undertaken by extreme internal locus-of-control respondents because of the paralyzing guilt feelings produced by the belief that one's own actions (sic) are responsible for the occurrence of the initial event.

In a cross-sectional analysis, Krause (1986) found similar results for the extreme locus-of-control groups among the elderly (average age = 73.4 years, SD = 6.2 years). Hierarchical multiple regression analyses showed that stressful life events accounted for 9.2% of the variance in somatic and retarded activities scores among extreme internals and for 11.1% among extreme externals. Stress accounted for less than 1% of variance in somatic and retarded activities scores among the moderate control belief group. Once again, Krause suggested that self-blame may impede constructive coping among extreme internal locus-of-control respondents.

Lefcourt, Martin, and Saleh (1984) suggested that a lack of social support may jeopardize the coping abilities internal locus-of-control respondents under stress. Using hierarchical multiple regression analyses, Lefcourt and his colleagues studied both locus of control and social support as moderators of stress responses among first-year psychology students (N = 46). Although an internal locus of control was expected to have a moderating effect on the relation between stress and mood
disturbance (Lefcourt, 1982), Lefcourt found that respondents reporting an internal locus of control for affiliation and low social support became more disturbed than did externals as a function of increasing numbers of negative life events.

To account for the fact that internality predicts depressive tendencies on the one hand and resilience on the other, Lefcourt and his colleagues (1984) suggested that social support may determine the nature of the association between internality and mood disorders. Internals who adopt more stable and global self-blaming tendencies, consistent with the characterological attributions of learned-helplessness depression, may lack the benefit of social support. Social support may buffer helplessness among internals either by reinforcing unstable, specific attributions, or by encouraging more external attributions for negative events.

**Summary.** Savicki and Cooley's (1983) hypothesis that high control leads to burnout under stressful conditions is supported by their own longitudinal research (Wade et al., 1986). Learned-helplessness research provides additional support for this hypothesis (Krause, 1986; Krause & Stryker, 1984; Lefcourt et al., 1984; Pittman & Pittman, 1979).

The related hypothesis that high control shifts to low control in the burnout process is also supported in both burnout (Capel, 1987; Cooley & Savicki, 1987; Holt et al., 1987; McIntyre, 1984; McMullen & Krantz, 1988) and locus-of-control research (Krause, 1986; Krause & Stryker, 1984; Lefcourt et al., 1984; Pittman & Pittman, 1979).
Although both emotional exhaustion and low personal accomplishment have been associated with an external locus of control (Capel, 1987; McIntyre, 1984), low personal accomplishment has not been consistently associated with an external locus of control when measures that involve internal attributions have been used (Cooley & Savicki, 1987; McMullen & Krantz, 1988).

Implications for Emotional Exhaustion

Savicki and Cooley (1983) suggested that depersonalization and low personal accomplishment would be explained by attributions, but they did not expect emotional exhaustion to be explained in the same way. According to Savicki and Cooley, only workers measuring high on all three MBI subscales should be considered burned out. Workers who are exclusively emotionally exhausted may be merely job-dissatisfied, i.e., worn down (emotionally) by an unfavourable job situation.

Consistent with Savicki and Cooley's (1983) assessment, Capel (1987) found that emotional exhaustion was more influenced than were the other two MBI subscales by working conditions, i.e., by number of years at the present position, by years of teaching experience, by role conflict, and by role ambiguity among secondary-school teachers (N = 78). Crane and Iwanicki (1986) found, however, that emotional exhaustion could not be clearly distinguished from depersonalization through reference to job-related stress. Among special-education teachers (N = 443), emotional exhaustion, frequency, and depersonalization, frequency, were both affected by role conflict (14% of variance explained). And both were less affected by role ambiguity (1%
and 2% of variance, respectively), than was personal accomplishment, frequency, (7% of variance). Role conflict and role ambiguity, in combination, accounted for greater variance in emotional exhaustion, frequency, and depersonalization, frequency (14% of variance) than they did in personal accomplishment, frequency (7% of variance).

In some studies, emotional exhaustion and depersonalization have loaded on the same factor (Brookings, Bolton, Brown, & McEvoy, 1985; Dignam, Barrera, & West, 1986). However, correlations between emotional exhaustion and depersonalization have generally been moderate, ranging from \( r = .40 \) (Maslach & Jackson, 1981) to \( r = .58 \) (Lee & Ashforth, 1990).

Savicki and Cooley’s (1983) model notwithstanding, emotional exhaustion has tended to be more strongly (albeit positively) associated with involvement than has depersonalization (Cooley & Savicki, 1987; McMullen & Krantz, 1988; Maslach & Jackson, 1981; Quigley et al., 1987) and more strongly associated with an external locus of control than has personal accomplishment (Capel, 1987; McIntyre, 1984). If emotional exhaustion is afforded its central position in the burnout process (cf. Lee and Ashforth, in press), then the burnout, locus-of-control, and learned-helplessness literatures together identify three attribution profiles likely to be associated with emotional exhaustion under stress.

First, Freudenberger (1977) identified the enthusiastic high-achievers or "true" burnouts who increase their effort in the face of stress. If these individuals maintain internal attributions, while adopting progressively more stable ones in
the face of stress, they may come to resemble the personally helpless or learned-helplessness depressed.

Hochreich (1974) distinguished between true internals and those internals who defend against failure by adopting more external attributions in the face of stress. Under low-stress conditions, both "defensive externals" and their more congruent counterparts would fit Freudenberger's description of enthusiastic high-achievers. Under high-stress conditions, however, low-trust "externals" would be expected to be more hostile and blaming than other internals or congruent externals (Hochreich, 1974).

Finally, Pittman and Pittman (1979) identified "true" externals who are expected to suffer less-extreme deficits under stressful conditions. Although female undergraduate students (N = 87) seem to adopt more internal-stable attributions in the face of repeated negative events (Peterson et al., 1981), some external-locus-of-control respondents seem nevertheless to maintain external attributions under stressful conditions. Under high-stress conditions, external attributors are expected to suffer the moderate deficits associated with universal helplessness (Abramson et al., 1978; Pittman & Pittman, 1979).

Emotional exhaustion, like depression, has been associated with the self-esteem deficits of personal helplessness. Self-esteem, as measured by the Rosenberg Self-Esteem Scale (Rosenberg, 1965), correlated significantly with emotional exhaustion, r = -.32 p < .001, depersonalization, r = -.30, p .001, and low personal accomplishment, r = -.21, p < .05, among female human-service professionals (N = 135) (Brookings et al.,
Among female day-care workers, self-esteem, correlated significantly with emotional exhaustion, $r = -.27$, $p < .05$, and depersonalization, $r = -.23$, $p < .05$, although it did not correlate significantly with low personal accomplishment (McMullen & Krantz, 1988).

Implications for Job Dissatisfaction

In helping to explain emotional exhaustion, attributions may also help to distinguish between emotional exhaustion and job dissatisfaction. Should emotional exhaustion be explained by characterological (internal-stable) and task difficulty (external-stable) attributions, in keeping with the theoretical overlap between personal and universal helplessness, and should job satisfaction fail to be associated with these attributions, then Savicki and Cooley's (1983) suggestion that emotional exhaustion may be little more than a state of being worn down (emotionally) by an unfavourable job situation (Savicki & Cooley, 1983) would not be supported.

Job dissatisfaction, though seemingly distinct from burnout (Maslach & Jackson, 1981), has, like emotional exhaustion, also been associated with self-esteem deficits. Among female human-service professionals ($N = 135$), job (dis)satisfaction correlated with emotional exhaustion, $r = .59$, with depersonalization, $r = .50$, and with low personal accomplishment, $r = .32$ (all $ps < .001$) (Brookings et al., 1986). The association between self-esteem and job (dis)satisfaction, $r = -.36$, was as strong as was that between emotional exhaustion and self-esteem, $r = -.32$. Thus job dissatisfaction does not seem to be uniquely associated with universal helplessness.
Additional Burnout/Learned-Helplessness Links

Through reference to attributions, Savicki and Cooley (1983) suggested similarities between burnout and learned-helplessness. This association has found additional support in the burnout, learned-helplessness, and coping literatures.

Burnout research. Apparent inconsistencies among the personal variables associated with burnout may be explained with reference to the learned-helplessness model. In cross-sectional studies, burned-out teachers have been found to exhibit a variety of negative characteristics, including a Type-A, workaholic personality (Nagy & Davis, 1985), excessive involvement in work (Quigley et al., 1987), perceived low control over students (Gold, 1985), low level of self-actualization (Malanowski & Wood, 1984), and an external locus of control (Holt et al., 1987; McIntyre, 1984). No theoretical explanation has been given in the burnout literature for finding a population of workaholic high-achievers who exhibit a predominantly external locus of control. A high achievement-orientation and a low orientation to control would seem to be mutually exclusive attributes.

The learned-helplessness model can account, however, for the fact that excessively-involved, Type-A personalities and those exhibiting low perceived control and low self-actualization are associated with the same syndrome. Under low-stress conditions, internal attributors would be expected to be highly achievement-oriented. If they were to adopt characterological or external attributions in the face of uncontrollable negative events, however, they would then come to experience low self-
actualization and low perceived control as helplessness developed.

Lee and Ashforth (1990) directly linked burnout and helplessness. Using a 6-item work-related helplessness scale, they found significant correlations between helplessness and burnout: $r = .43, p < .001$, emotional exhaustion, $r = .26, p < .001$, depersonalization, and $r = .20, p < .05$ low personal accomplishment.

**Learned-helplessness research.** Studying learned-helplessness in the workplace, Seligman and Schulman (1986) found associations between attributions and both perseverance and performance behaviours among life-insurance sales agents. Consistent with personal and universal-helplessness, they found that agents who made more "pessimistic" attributions, i.e., more internal, stable, and global attributions for negative events and more external, unstable, and specific attributions for positive events, were more prone to low productivity and quitting than were those with a more optimistic style. A pessimistic style both correlated with and predicted a lack of perseverance on the job.

Learned-helplessness is sometimes assessed behaviourally as a performance deficit (e.g., Hiroto, 1974; Hiroto & Seligman, 1975) or as low productivity or low perseverance (Seligman & Schulman, 1986). Yet it is most often assessed as depression. Depression is both the criterion most consistent associated with personal helplessness and the emotional symptom most consistently linked with burnout (Kahill, 1988).
Coping. Other links between burnout and learned-helplessness are to be found with reference to coping. The end-states of both syndromes are described in ways that suggest specific coping behaviours. The final stage of burnout has been described as apathy (Edelwich & Brodsky, 1982; Freudenberger, 1980) and as depersonalization coping (Lee & Ashforth, in press). Learned-helplessness was originally observed as a failure to respond to aversive stimuli (Abramson et al., 1978). Later, the cognitive and motivational deficits associated with personal and universal helplessness remained logically consistent with the apathy of burnout (Abramson et al., 1978).

Peterson and Seligman (1983) explicitly proposed a place for coping in reformulated learned-helplessness theory. They suggested that victims who lack control in the literal sense may attempt to gain control in a secondary or cognitive sense by finding meaning or value in uncontrollability. Victims may cope cognitively by aligning themselves with chance factors, always expecting the worst and thereby creating the illusion of controlling their world.

Cannon's (1929) "fight or flight" response set, a conceptual model used to categorize coping strategies (Latack, 1986), has been applied both to learned-helplessness and to burnout. Folkman and Lazarus (1985) included such flight-oriented responses as distancing and escape-avoidance in their revised version of the Ways of Coping scale. Consistent with Seligman's hypothesis, Folkman and her colleagues (Folkman, Lazarus, Dunkel-Schetter, Delongis, & Gruen, 1986) found that spouses (N = 170) who assessed negative situations pessimistically as stable or as
"having to be accepted" engaged less in situation-focused coping strategies. They engaged more in escape-avoidance and distancing coping.

In a recent study of the effects of attribution on coping and performance, Mikulincer (1989a) found that undergraduate social sciences students (N = 90) who attributed failure to internal/general (a composite score of stability and globality) causes were also less likely to use problem-focused coping (i.e., coping aimed at solving the stress-creating problem) and more likely to use emotion-focused coping (i.e., coping aimed at easing the tension aroused by the threat) than were those who identified external/specific causes. Students who assessed the causes of failure pessimistically were also more likely to use distancing coping.

Mikulincer (1989a) found that both low problem-focused coping and high distancing coping were related to performance deficits and that distancing coping acted as an intervening link between attribution and performance.

As an intervening link between attribution and performance, coping may mediate the process by which causal or locus-of-control attributions affect performance. Consistent with Wortman and Brehm's (1975) integration of reactance and the learned-helplessness theory, Pittman and Pittman (1979) hypothesized that internal locus-of-control individuals try harder, or cope more aggressively under the frustration of low-helplessness training, yet under high-helplessness training, they seem to cope less aggressively and become more resigned and depressed. In causal attribution terms, those who make behavioural (internal-unstable)
attributions for negative events may initially cope more aggressively or actively, in accordance with reactance theory, when negative events occur. But as negative events persist, they may adopt more characterological (internal-stable) attributions and may abandon their control-coping strategies more completely than do external attributors.

Holt and her colleagues (1987) found that female high-stress/low emotional exhaustion elementary teachers (N = 25) chose more active types of coping strategies (get involved in a hobby or activity, adopt a humorous attitude, keep persisting) than did their high-stress/high-emotional exhaustion counterparts (N = 40), who chose more passive (e.g., think about it, get angry, cut out activities) strategies. Among human-service professionals (N = 503), Etzion and Pines (1986) found that, whereas more active/direct behaviours were associated with lower burnout, as measured by Pines' burnout measure (Pines, 1985), more inactive or indirect coping strategies were associated with higher burnout scores. In developing workshops, Pines and her colleagues (1981) promoted avoidant activities as responses both consistent with and appropriate to high-stress, burnout situations.

With respect to work-related coping, Latack (1986) found that greater control coping was associated with greater job satisfaction and less propensity to leave the job among managers and professionals (N = 109). By extension, greater escape coping could be expected to be associated with greater job (dis)satisfaction and greater job-leaving tendencies.
Job (dis)satisfaction, burnout, and learned-helplessness have all been linked to job turn-over (Kahill, 1988; Seligman & Schulman, 1986). However, in discussing teacher burnout, Dworkin (1987) claimed that entrapment may be more pervasive than job turnover among burned-out teachers. If burned-out teachers were to attribute the cause of their failures either to their characters or to their level of competence, they would not attempt to escape, any more than learned-helplessness victims attempt to escape from aversive stimuli. Insofar as the burnout victims are personally helpless, their escape coping will likely be of the passive, emotion-focused, or cognitive type attributed by Peterson and Seligman (1984) to helplessness victims. Short of changing their careers, burnout victims may not contemplate leaving their jobs.

In developing a work-related coping measure, Latack (1986) subdivided escape and control coping. She included cognitive reappraisal and active subtypes. According to Dworkin's (1987) entrapment theory, burnout should be more strongly associated with escape-cognitive than with escape-active coping.

Lee and Ashforth (1990) found nonsignificant correlations between Latack's (1986) general escape-coping subscale and the MBI subscales, $r = .13$, emotional exhaustion, $r = .14$, depersonalization, and $r = -.08$ personal accomplishment, among supervisors and managers from a large public welfare agency ($N = 219$). Yet they found stronger correlations between control coping and burnout, $r = -.22$, $p < .05$, emotional exhaustion, $r = -.18$ depersonalization, and $r = .42$, $p < .001$, personal accomplishment. It seems that burned-out respondents were less
consistent in adopting escape coping than they were in avoiding control-coping strategies. Perhaps, consistent with Dworkin (1987), they were disinclined to adopt the more active escape-coping strategies.

Leiter (1991) similarly found only weak correlations between Latack's general escape coping and the MBI subscales, \( r = .16, p < .05 \), emotional exhaustion, \( r = .18, p = < .05 \), depersonalization, and \( r = .10, \) ns, personal accomplishment, among workers in a mental hospital (\( N = 177 \)). He found stronger correlations between control coping and burnout, \( r = -.34, p < .01 \), emotional exhaustion, \( r = -.26 p < .01 \), depersonalization, and \( r = .46, p < .01 \), personal accomplishment. Again, these findings may indicate that escape-cognitive coping is the preferred strategy among burnout victims.

**Implications for Personal Accomplishment**

Although Savicki and Cooley's (1983) hypothesis that low personal accomplishment is associated with external attributions has found only limited support (Capel, 1987; Cooley & Savicki, 1987; McIntyre, 1984; McMullen & Krantz, 1988), findings reported by Lee and Ashforth (1990) and by Leiter (1991) nevertheless suggest that personal accomplishment may be the burnout subscale most strongly associated with control coping strategies.

**Summary and Integration**

The similarities between burnout and learned-helplessness depression, documented in the burnout, learned-helplessness, and coping literatures, give rise to the hypothesis that burnout may be a work-related form of learned helplessness, similar to
personal and universal helplessness, but distinct from job dissatisfaction (Maslach & Jackson, 1981).

Although some association between constructs measured as clusters of emotional symptoms is to be expected (Kahill, 1988), the association between burnout and depression would be more compelling if burnout were shown to be associated with those attributions tested by means of the learned-helplessness model. If respondents most vulnerable to burnout were found to make internal-stable attributions, possible remediation strategies for burnout might be reconsidered. Because of the association between burnout and an external locus of control, McIntyre (1981) suggested therapeutically conditioning an internal locus of control. However, such an intervention might increase the vulnerability to burnout were it to encourage an exaggerated expenditure of effort under low-stress conditions or more characterological attributions under high stress conditions.

Main expectations. The depersonalization and low personal accomplishment subscales of the MBI were not used in this analysis because of their suspected confounding with attributions (Savicki & Cooley, 1983). Attributions styles and coping strategies consistent with both personal and universal helplessness were expected, however, to be associated with emotional exhaustion.

Teacher stress (Crane & Iwanicki, 1986; Russell, Altmaier, & Van Velzenet, 1987), attribution style (Wade et al., 1986), and coping strategies (Etzion & Pines, 1986; Holt et al., 1987) have all been associated with burnout. Specifically, high teacher stress and characterological (internal-stable) attributions for
negative events, generally associated with personal helplessness (McMullen & Krantz, 1988), have both been associated with high emotional exhaustion. These associations are consistent with learned-helplessness theory (Sweeney et al., 1986) and with longitudinal burnout research (Wade et al., 1986).

Figure 2 represents the relationship between locus and stability attributions, indicating the coping strategies most likely to be used with each. High escape-cognitive coping was expected to be associated with high emotional exhaustion. This expectation is consistent with both the hypothesized sense of entrapment experienced by burnout victims (Dworkin, 1987) and with learned-helplessness theory. Personal-helplessness theory holds that active-coping strategies, including active attempts to escape, diminish when attributions are internal and stable for negative events (Abramson et al., 1978; Peterson & Seligman, 1984). Escape-cognitive coping, in particular, is logically consistent with an internal-stable attribution style for negative events and with a belief that the causes of problems are embedded in one's character.

Because of the theoretical overlap between personal and universal helplessness (Abramson et al., 1978), those attributions and coping strategies consistent with universal helplessness were also expected to be associated with burnout. Specifically, high external-stable attributions and escape-active coping were both expected to be associated with high emotional exhaustion. Peterson and his colleagues (Peterson et al., 1981) found that external attributions were inconsistent with learned-helplessness depression. Nevertheless, attributions consistent
<table>
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<th>STABILITY (CONTROL)</th>
<th>Control coping</th>
<th>Escape coping</th>
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<td>Internal-unstable</td>
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<td>External-stable (characterological)</td>
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<td>External-unstable</td>
<td>External-stable (luck)</td>
<td>External-stable (task difficulty)</td>
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Cognitive coping  
Active coping

Figure 2. Model integrating attributions and coping
with universal helplessness are theoretically expected to be associated with some of the deficits of personal helplessness and depression (Abramson et al., 1978). External-stable attributions and escape-active coping were therefore expected to contribute, albeit less strongly than internal-stable attributions and escape-cognitive coping, to emotional exhaustion.

**Composite attribution variables.** Generally, attributions are taken to be hypothetical constructs representing psychological processes (Peterson & Seligman, 1984). Internal-stable attributions for negative events are taken, for example, to reflect a psychological risk of personal helplessness (Peterson et al., 1981). In the learned-helplessness literature, attribution variables have been constructed mathematically in various ways to reflect psychological processes. Peterson and his colleagues (1982) suggested creating mathematical composites of attribution variables by summing the three dimensions on the Attribution Style Questionnaire. Because both internal-stable attributions for negative events and external-unstable attributions for positive events have been found to predict depression (Seligman et al., 1979; Sweeney et al., 1986), Seligman and Schulman used a composite-positive minus composite-negative (CPCN) variable to maximize the effect of attributions on helplessness.

Globality has been the most, and stability the least powerful predictor of depression (Peterson et al., 1982). Abramson and her colleagues (Abramson, Alloy, & Metalsky, 1986) therefore suggested using a simple average of stability and globality scores to create a mathematical generality variable.
However, Mikulincer (1989a) instead used a multiplicative generality factor to reflect the assumed joint psychological action of stability and globality.

The two dimensions of interest here, locus and stability, were used multiplicatively to reflect the assumed psychological joint action of internal and stable attributions. The effect of mathematically maximizing extreme scores on the dimensions considered essential to risk was consistent with the expectation that extreme attributions represent the greatest psychological risks (Savicki & Cooley, 1983). A high score on the composite characterological attributions variable (see Table 1) was taken to indicate that predominately internal and stable responses had been recorded. Locus scores were reversed on a composite task-difficulty attribution variable (see Table 1), with a high score being taken to indicate that predominately external and stable responses had been recorded.

**Product-terms.** Whereas composite variables were entered into the regressions as single variables, product-terms were entered after the manner of interactions. Stress-by-attributions product-terms were used to reflect the hypothesized moderating effect of attributions on stress and burnout relationships. According to the Cherniss' (1980) model of burnout, work settings and personal attributes combine to cause burnout outcomes.

A personal-helplessness product-term, teacher stress by characterological attributions (see Table 1), was used to reflect conditions in life thought to be conducive to personal-helplessness decisions. Only when characterological attributions
Composite Variables

Behavioural attributions composite: external by stable attributions

Characterological attributions composite: internal by stable attributions

Luck attributions composite: external by unstable attributions

Task-difficulty attributions composite: internal by unstable attributions

Product-Terms

Enthusiasm product-term: teacher stress by behavioural (internal-unstable) composite variable

Morale product-term: teacher stress by luck (external unstable) composite variable

Personal-helplessness product-term: teacher stress by characterological (internal-stable) composite variable

Universal-helplessness product-term: teacher stress by task-difficulty (external-stable) composite variable

Table 1. Glossary of Composite Variables and Product-Terms
attributions for negative events and high stress co-exist are depressive interpretations expected (Peterson & Seligman, 1984).

Task difficulty (external-stable) attributions for negative events were also expected to enhance, albeit less strongly, the effect of high teacher stress on burnout. The universal-helplessness product-term, teacher stress by task difficulty attributions (see Table 1), was taken to reflect conditions in life thought to be conducive to universal-helplessness decisions. Although external locus-of-control respondents have been reported to be less depressed than internal respondents under high-helplessness conditions (Pittman & Pittman, 1979), learned-helplessness theory holds that external attributors will nevertheless experience cognitive and motivational deficits under high-stress conditions (Abramson et al., 1978).

Corollary expectations. Behavioural (internal-unstable) and luck (external-unstable) attributions were expected to be negatively associated with burnout. The task of predicting the relative strength of these associations was complicated, however, by the mix of attribution scales and criterion variables used within the learned-helplessness literature. Generally, attribution style is measured as the sum of the locus, stability, and globality attribution scores. When internal-stable-global attributions are associated with learned-helplessness depression, external-unstable-specific attributions are simultaneously associated with low learned-helplessness depression.

In a meta-analytic review, Sweeney and his colleagues (1986) confirmed that some of the findings reported using dimensionalized attribution ratings are consistent with factor
studies. Attributions made to luck factors (external-unstable attributions) had a reported effect size of -.17 on depression, compared to a reported effect size of .32 for ability factors (internal-stable attributions).

The related associations between depression and both behavioural (internal-unstable) and task difficulty (external-stable) attributions are not tested by the learned-helplessness-depression hypothesis. Nevertheless, Peterson and his colleagues (1981) observed that behavioural (internal-unstable) and external (task difficulty and luck) explanations were negatively associated with depression, \( r = -.44 \) and \( r = -.47 \) (ps < .001), respectively, when the attributions of female undergraduate students (N= 87) were independently coded. In their meta-analytic review of two-dimensional factorial studies, Sweeney and his colleagues (1986) reported, however, that effort (internal-unstable) factors had an effect size of .08 on depression, and task-difficulty (external-stable attributions) an effect size of -.07. Neither group of researchers commented on the expectation that task difficulty (external-stable) attributions would be positively associated with universal helplessness (Abramson et al., 1978).

Over-all, the weight of learned-helplessness research (Sweeney et al., 1986) seems to indicate that luck (external-unstable) attributions are likely to be more strongly and negatively associated with depression than are behavioural (internal-unstable) attributions. Under low-stress conditions, behavioural attributions may actually contribute to helplessness (Pittman & Pittman, 1979; Sweeney et al., 1986). In the burnout
literature, behavioural attributions are taken to constitute a burnout risk. Freudenberger (1980) considered individuals with high achievement needs to be most at risk for burnout, and both Edelwich and Brodsky (1980) and Savicki and Cooley (1983) suggested prospective burnout victims may be characterized by their idealistic enthusiasm.

High behavioural (internal-unstable) attributions under low-stress conditions were expected here to contribute to high emotional exhaustion more than were luck (external-stable) attributions. Behavioural attributions under low-stress conditions were assumed to be associated with increases in effort and with greater persistence, consistent with Pittman and Pittman's (1979) finding that internal locus-of-control respondents perform better under low-helplessness training.

Although low control coping has been associated with both high emotional exhaustion and low personal accomplishment (Lee & Ashforth, 1990; Leiter, 1991), based on Pittman and Pittman's (1979) reported curvilinear relationship between stress and performance among internals, control-active coping was suspected of having, among internals, a curvilinear relationship with stress and burnout. Control-cognitive coping, on the other hand, was expected to have a more linear relationship with distress outcomes among internals and externals alike. Among externals, performance has been observed to decrease in a linear fashion with increasing stress (Pittman & Pittman, 1979). Among behavioural (internal-unstable) attributors, a high ratio of control-cognitive, "I think I can", coping was expected to help explain the initial over-exertion in the face of stress thought
to lead to the debilitation of burnout (Savicki & Cooley, 1983). Such coping would be expected to diminish in a linear fashion with increased stress.

Because control-cognitive coping was expected to have a more consistent linear relationship with emotional exhaustion than was control-active coping, high control-cognitive coping was expected to contribute more strongly to high emotional exhaustion.

To test the expected association between behavioural attributions and burnout under low-stress conditions, a composite behavioural (internal by unstable) variable was mathematically constructed (see Table 1), modelled on the composite characterological variable. In addition, an enthusiasm (stress by behavioural attributions) product-term, modelled on the personal helplessness product-term, was used to reflect the expected moderating effect of internal-unstable attributions on stress and strain relationships. Similarly, a composite luck (external-unstable) variable was constructed (see Table 1), modelled on the composite task difficulty variable, and a morale (stress by luck attributions) product-term (see Table 1), modelled on the universal-helplessness product-term, was used to reflect the expected moderating effect of external-unstable attributions.

Longitudinal implications. The personal change component of burnout, identified in the descriptive literature (Freudenberger, 1974), has been largely ignored in the context of cross-sectional research designs. Because of limited resources, this study too was cross-sectional in design. The stability attribution factor was included, however, in an attempt to overcome this limitation
of design. Peterson and his colleagues (1981) have demonstrated that, among female undergraduate students, those who reported repeated exposure to negative events over the previous year reported more characterological explanations for negative events. Characterological attributions, in turn, have been found to be significantly more "stable" than behavioural attributions.

In this study, those attributing negative events to more stable causes were assumed to have suffered more prolonged exposure to negative events. Although stable attributions, as reported here, were made in response to both general-life and work-related hypothetical events, they were nevertheless taken to reflect, to some extent, the impact of long-term work-related stress.

Sample. Post-secondary instructors were studied. This group, though assumed to be stressed, has been under-represented in the literature (Seiler & Pearson, 1984-1985). At the institution selected, only male instructors were sampled. Males and females differ with respect burnout, with men generally reporting less burnout (Etzion & Pines, 1986), less emotional exhaustion (Maslach & Jackson, 1981), and more depersonalization than women (Anderson & Iwanicki, 1984; Greenglass & Burke, 1989; Ogus, Greenglass, & Burke, 1990; Schwab & Iwanicki, 1982). However, among teachers, men have been reported to be at greater risk of burnout (Schlansker, 1987).

Because the population studied was predominantly male, only a sample of males was expected to provide an adequate number of respondents.
Hypotheses

Main Hypothesis

Significant linear relationships were expected between emotional exhaustion and the predictor variables (a) teacher stress (b) internal-stable (characterological) and external-stable (task difficulty) attributions for negative events, (c) the personal-helplessness (teacher stress by internal-stable attributions for negative events) and universal-helplessness (teacher stress by external-stable attributions for negative events) product-terms, and (d) the ratios of escape-cognitive coping to total coping and of escape-active coping to total coping.

Specifically, I hypothesized that personal helplessness (teacher stress by internal-stable attributions for negative events) and universal helplessness (teacher stress by external-stable attributions for negative events) would make significant contributions to emotional exhaustion above and beyond those made by teacher stress and by internal-stable (characterological) and external-stable (task difficulty) attributions for negative events. The ratios of escape-cognitive coping to total coping and of escape-active coping to total coping were expected to make additional contributions to emotional exhaustion.

Although internal-stable and external-stable attributions for negative events were both expected to be positively associated with emotional exhaustion under high-stress conditions, the association between emotional exhaustion and internal-stable attributions was expected to be stronger.
Similarly, although both coping ratios were expected to be positively associated with emotional exhaustion, the escape-cognitive coping ratio was expected to account for more variance in emotional exhaustion than was the escape-active coping ratio.

Corollary Hypothesis

In addition, significant linear relationships were expected between emotional exhaustion and the predictor variables (a) teacher stress (b) external-unstable (luck) and internal-unstable (behavioural) attributions for negative events, (c) the morale (teacher stress by external-unstable attributions for negative events) and enthusiasm (teacher stress by internal-unstable attributions for negative events) product-terms, and (d) the ratios of control-cognitive coping to total coping and of control-active coping to total coping.

Specifically, I hypothesized that morale (teacher stress by external-unstable attributions for negative events) and enthusiasm (teacher stress by internal-unstable attributions for negative events) would make significant contributions to emotional exhaustion above and beyond those made by teacher stress and by external-unstable (luck) and internal-unstable (behavioural) attributions for negative events. The ratios of control-cognitive coping to total coping and of control-active coping to total coping were expected to make additional contributions to emotional exhaustion.

Internal-unstable attributions were expected to be positively associated with emotional exhaustion under low-stress conditions. This association was expected to be stronger than
was the association between external-unstable attributions and emotional exhaustion under low-stress conditions.

Although both coping ratios were expected to be negatively associated with emotional exhaustion, the control-cognitive coping ratio was expected to account for more variance in emotional exhaustion than was the control-active coping ratio.

Exploratory Questions

The relationships described in the hypotheses above were explored with respect to personal accomplishment. Personal accomplishment and depersonalization were excluded from the main burnout hypotheses because of their suspected confounding with stability and locus attributions, respectively. Personal accomplishment was nevertheless explored as a criterion both because of its expected association with control coping and because of its weaker association with emotional exhaustion.

Job (dis)satisfaction was also explored as a criterion of secondary interest because of its expected association with escape-active coping. Job (dis)satisfaction was expected not to be predicted by attributions, and in this respect, it was expected to differ from emotional exhaustion.
Method

Respondents

The respondents were a volunteer sample of instructional faculty at a post-secondary institution in a large westcoast urban centre in Canada. During the 1980s, the institution studied was affected by recession and organizational change. The institutional context was therefore one of limited and uncertain resources, with resulting increases in demands on faculty and decreases in morale. The climate could be expected to foster burnout.

At the time of the study, the institution was under exceptional strain, having been specifically targeted for cutbacks during the weeks previous. An intense publicity and lobbying campaign had been initiated by the faculty union.

The instructional faculty is represented by two unions. Including both groups, the faculty consists of approximately 513 members, 438 men and 75 women. Because men comprise the bulk of the population and because burnout may be related to sex (Maslach & Jackson, 1981), only men were sampled, specifically those 30-55 years of age. Maslach and Jackson (1981) reported that burnout tends to decrease with age, either because those who are vulnerable leave or because they adjust.

The total sample consisted of 316 men. A 47% response rate yielded 148 respondents. Of those respondents, 108 returned questionnaires with no more than 20% of responses missing on any scale (38 were eliminated), with an appropriate age-range response (1 was eliminated), and with a valid response set (2
were eliminated because of impossible responses on the Expanded ASQ).

Procedure

Questionnaires were provided to all male instructional faculty between the ages of 30 and 55 through the central mail service. Faculty members were invited to return their questionnaires to the union office in person, through the central mail service, or through their chief bargaining representative. (For informed consent attachments, reminders, and endorsement, see Appendix A).

The study was advertised through the union and the institute newsletters. (See Appendix B for texts.)

Instruments

Along with a demographic-data survey, the questionnaire contained five self-report instruments (see Appendix C), including seven subscales from the Teacher Stress Questionnaire (TSI, Pettegrew & Wolf, 1982), the Expanded Attribution Style Questionnaire (Expanded ASQ, Peterson & Villanova, 1988), the first two scales of Latack's Coping Measure (Latack, 1986), and two factors from the Maslach Burnout Inventory (MBI, Maslach & Jackson, 1981).

Criterion variables. The main criterion variable was assessed by measuring the frequency of emotional exhaustion (MBI). The frequency of (low) personal accomplishment and the degree of job (dis)satisfaction (TSI) were also explored as a criterion variables.

The Maslach Burnout Inventory (Maslach & Jackson, 1981) measures burnout by assessing three symptom factors: (a)
emotional exhaustion—feeling emotionally worn down and exhausted by work; (b) personal accomplishment—feelings of competence and achievement in work; and (c) depersonalization—an unfeeling and impersonal response to clients. Burnout is generally taken to be the configuration of higher emotional exhaustion, lower personal accomplishment, and higher depersonalization, with each item being rated for frequency and intensity.

Emotional exhaustion is the longest of the MBI scales (containing 9 of 24 items) and is the least likely to be confounded with attribution style (Savicki & Cooley, 1983). It plays a critical role in burnout according to a number of theorists (see Lee & Ashforth, in press), and is hypothesized to lead directly to both depersonalization, itself perhaps a defensive coping strategy for dealing with emotional exhaustion (Kahill, 1988; Lee & Ashforth, in press), and diminished personal accomplishment, a measure of performance competence and a more loosely-related construct (Lee & Ashforth).

Maslach and Jackson (1981) found that the emotional exhaustion subscale correlated with depersonalization, frequency, \( r = .44 \), and with personal accomplishment, frequency, \( r = .17 \). Depersonalization was not included in this study because it was expected, consistent with Savicki and Cooley's (1983) model, that it might be confounded with locus attributions. Personal accomplishment was included as an exploratory criterion.

The emotional exhaustion subscale consists of nine items (items 1, 2, 3, 5, 7, 10, 11, 12, and 16) and the personal accomplishment subscale of eight items (items 4, 6, 8, 9, 13, 14 15, and 17), each rated for frequency and intensity. For both
subscales, the frequency dimension is labeled at each point, ranging from 0 ("never") to 6 ("every day"). The intensity dimension ranges from 1 ("very mild, barely noticeable") to 7 ("major, very strong"). Maslach and Jackson (1981) report correlations between the intensity and frequency dimensions across items ranging from .35 to .73, with a mean of .56. Because both Gaines and Jermier (1983) and Russell and his colleagues (1987) have suggested that intercorrelations between the intensity and frequency measures are sufficiently high to warrant using the frequency measure only in research, only the frequency dimension was used in this study.

Possible scores for emotional exhaustion, frequency ranged from a low of 0 to a high of 54, with a higher score indicating greater emotional exhaustion. Possible scores for personal accomplishment, frequency ranged from a low of 0 to a high of 48, with a higher scores indicating greater personal accomplishment. The personal accomplishment subscale was reversed so that higher scores on both subscales would indicate greater burnout.

Maslach and Jackson (1981) have reported good reliability for both the emotional exhaustion and personal accomplishment subscales. For the frequency subscale, internal consistency (Cronbach's coefficient alpha) was reported at .89 for emotional exhaustion and at .74 for personal accomplishment. Test-retest reliability is moderate to good. Using a two to four week interval, the test was readministered to 53 graduate students in social welfare and administrators in a health agency, yielding a reliability of \( r = .82 \) for emotional exhaustion, frequency, and of \( r = .60 \) for personal accomplishment, frequency. In this
study, the standardized item alpha was calculated at .91 for emotional exhaustion, frequency, and at .72 for personal accomplishment, frequency.

Maslach and Jackson (1981) have reported a series of validity checks which, though encouraging collectively, are unimpressive in themselves. Through extensive use since 1981 however, the MBI has steadily strengthened its validity as a burnout measure.

The Teacher Stress Inventory (Pettegrew & Wolf, 1982) was the source of the job satisfaction subscale, used in this study as an exploratory variable. Along with the management style, life satisfaction, and supervisory support subscales, job satisfaction was originally included in the inventory to demonstrate its construct validity. Job satisfaction clustered with role-related and task-related stress variables when a Smallest Space Analysis was applied to the inventory (Pettegrew & Wolf, 1982), and it correlated moderately with other teacher stress subscales (Schutz & Long, 1988). Nevertheless, the subscale was used here as a criterion variable (Kahill, 1988; Wolpin et al., 1991).

The job satisfaction scale has five items (items 21-25) and is responded to on a 5-point Likert-type scale, labelled from "strongly disagree" to "strongly agree". Scores were reverse-scored. They ranged from a possible low of 5 to a possible high of 25, with a higher score representing greater job dissatisfaction.
The internal consistency (Cronbach's coefficient alpha) had previously been calculated at .86 (Pettegrew & Wolf, 1982). In this study, it was calculated at .80.

**Predictor variables.** The predictor variables, teacher stress, attribution style for negative events, and coping, were assessed by measuring the degree of teacher stress (TSI), the degree of locus and of stability attributions for negative events (Expanded ASQ) and the ratio of escape-cognitive, escape-active, control-cognitive and control-active coping to total coping (Latack's coping measure).

Using the Teacher Stress Inventory (1982), teacher stress was taken to be the summed score of six subscales: role ambiguity (items 1-5), role overload (items 6-10), role conflict (items 11-15), nonparticipation (items 16-20), task stress (items 26-32), and supervisory support (items 33-36). These subscales together measure role-related and task-based stress and include the related measure of (lack of) supervisory support.

The life satisfaction and management style subscales were not used. The life satisfaction subscale was excluded because it, like job satisfaction, was taken to be an outcome measure. Management style was excluded because it was not expected to produce significant variability within the organization studied. Both these subscales, like job satisfaction and supervisory support, were originally included in the TSI to establish the measure's construct validity.

Together, the six subscales included in job stress comprise 31 items, which are responded to on a 5-point Likert-type scale, labelled from "strongly disagree" to "strongly agree."
Positively phrased items were reverse-scored, so that a score of 5 represents a high-stressed response for all items. Possible total scores for teacher stress ranged from a low of 31 to high of 155, with a higher score indicating greater teacher stress.

Pettegrew and Wolf (1982) have reported internal consistencies (Cronbach's coefficient alpha) of .79, role ambiguity; .76, role overload; .82, role conflict; .76, nonparticipation; .84, task stress; and .89, supervisory support. In this study, these alphas measured .72, .77, .82, .66, .75, and .77, respectively. The overall internal consistency (Cronbach's coefficient alpha) of the scales used was calculated at .90.

The TSI significantly differentiates between high and low-stress groups of respondents (Pettegrew & Wolf, 1982).

The Expanded ASQ (Peterson & Villanova, 1988) was used to assess attribution style for negative events. Attribution style is conceptualized as the degree of pessimism present in a respondent's evaluation of causes of negative events. Attribution style was measured as the tendency to make internal or external and stable or unstable attributions for negative events. Both extreme internal and extreme external attributions for negative events have been considered dysfunctional (Savicki and Cooley, 1983). Peck (1978) classified disorders of responsibility into neuroses and character disorders, with neurotics assuming too much responsibility, and individuals with character disorders not enough.

The Expanded ASQ consists of 24 items, 6 negative events taken from the original Attributional Style Questionnaire (ASQ) (Peterson et al., 1982) and 18 more taken from a life events
questionnaire designed for college students (Marx, Garrity, & Bowers, 1975). Where some items were inappropriate for the situation or population, minor wording changes were made (see Appendix C). Because only work-related events were of interest in this study, the Expanded ASQ was factor-analyzed to test its domain specificity.

In this study only the locus and stability dimensions for negative events were used; the global dimension was excluded. The globality dimension has been shown to correlate moderately with stability ($r = .55$). Both the stability and globality dimensions are largely independent of internality (Peterson & Villanova, 1988). Learned-helplessness theorists have not yet concluded whether stability or globality is critical factor in distinguishing between attributions that prefigure helplessness and those that contribute to the syndrome (Peterson et al., 1981). However, Mikulincer (1988) implicated the stability dimension in this process.

Although globality is considered important in predicting depression (Peterson, Villanova, & Raps, 1985), it was considered to be less important here in predicting burnout. Burnout is generally taken to be a more situation-specific phenomenon than is depression (Maslach & Jackson, 1977; Pines et al., 1981).

For each item on the locus and stability dimensions, the respondent identified a major cause of the negative event presented and then, with regard to this cause, responded to two questions on 7-point Likert-type scales. These two questions assessed the identified cause on the locus and stability dimensions. The scales associated with each assessment were
scored in the directions of increasing internality and stability. Possible scores on each scale ranged from a low of 24 to a high of 168, with higher scores indicating greater internality or stability of attributions for negative events.

Peterson and Villanova (1988) reported internal consistencies (Cronbach's coefficient alpha) of .66 and .85, respectively, for the locus and stability factors of the Expanded ASQ. In this study, internal consistencies were calculated at .84 and .87, respectively.

Peterson and Villanova (1988) examined the validity of the Expanded ASQ by correlating the dimensions of explanatory style in this test with ratings of explanations for actual negative events. An internal explanatory style predicts actual internal explanations to a greater degree than it predicts stable explanations. A stable explanatory style predicts stable explanations, but not any better than it predicts internal explanations. The construct validity for the stability dimension therefore presents a problem.

Peterson and Villanova (1988) noted that the locus dimension continues to be the least coherent of the three dimensions. This fact may be due to the scale's true multidimensionality. Multidimensionality has been claimed for both the locus attribution dimension (Cooley & Savicki, 1987; Marsh, 1984) and for locus-of-control dimensions (Wong & Sproule, 1981).

Multiplicative locus by stability variables were used (cf. Mikulincer, 1989a), with a composite internal-stable attribution variable for negative outcomes indicating characterological self-blame and a composite internal-unstable attribution variable
indicating behavioural self-blame. External attribution styles were indicated by composite external-unstable (luck) or external-stable (task difficulty) composite variables.

Latack's coping measure (Latack, 1986) was used to assess coping strategies. Coping was conceptualized as the effort to master conditions that tax or exceed adaptive resources (Monat & Lazarus, 1977). Latack developed her coping categories by integrating three conceptual frameworks: problem-focused and emotion-focused coping (Folkman, 1982; Folkman & Lazarus, 1980); action, cognitive reappraisal, and symptom management (Latack, 1984; Moos & Billings, 1982); and Cannon's (1929) fight or flight responses.

Of the three subscales included in Latack's coping measure (control coping, escape coping, and symptom management), only the control and escape subscales were used. Conceptually, these subscales fit most closely with kind of behaviours observed in context of learned-helplessness. Together, the subscales used consist of 28 items. Control coping items include both actions and cognitive reappraisals that are proactive or take charge in tone; escape coping items include both actions and cognitive reappraisals that suggest an escapist or avoidance mode.

Leiter (1991) tested, through confirmatory factor analysis, Latack's (1986) cluster analysis of the scale, using staff members in a mental hospital (N = 177). The resulting factor structure was similar to one that Latack found to be associated with role ambiguity. Factor loadings were further explored here in a preliminary factor analysis.
According to Latack and Leiter, there are 17 control items and 11 escape items. Among the control items, 15 appear active in character; 4 appear to involve cognitive reappraisals. Among the escape items, 5 appear active in character; another 6 appear to involve cognitive reappraisals. In total, four subscales were used: control-active coping (items 1, 3, 4, 7, 8, 12, 14, 15, 18, 21, 22, 25, and 28), control-cognitive coping (items 5, 9, 13, and 20), escape-active coping (2, 6, 11, 19, and 23), and escape-cognitive coping (items 10, 16, 17, 24, 26, and 27).

On all subscales, items are assessed using a 5-point response scale (1 = "hardly ever do this" to 5 = "almost always do this"). When Latack constructed the test, participants were asked to respond with a specific type of situation in mind--role ambiguity, role conflict, or role overload. Role ambiguity, for example, was described: "You are uncertain of what you are supposed to do on your job or unsure of how to approach a particular assignment" (Latack, 1986, p. 378). Participants were asked to indicate how frequently they react in the ways presented by the measure. Items were then grouped into scales or clusters based on the consistency of response for each of the stress situations. For escape coping under role ambiguity, role conflict and role overload conditions, Latack (1986) reported internal consistencies (Cronbach's coefficient alpha) of .70, .71, and .54 respectively; for control coping under role ambiguity, role conflict and role overload, she reported internal consistencies of .79, .85, and .85, respectively.

Role overload was the most significant stressor for the population studied. Among this sample, the reliability of escape
coping was .60. The reliability of control coping was measured at .84. No test-retest reliabilities have been established.

Initial construct-validity evidence has been encouraging for this measure, but the test needs further validation with use. Evidence of construct validity was drawn from the fact that Type A personalities, as measured by a 9-item scale by Caplan, Cobb, Harrison, French, and Pinneau (1975), favour control strategies across situations; those with higher levels of social support, as measured by a 24-item scale from Caplan et al. (1975), are similarly more likely to approach stressful situations with a control strategy.

In the present study, respondents to Latack's Coping Measure were asked to identify their own stressful situation and to respond with reference to situations similar to the one they had identified (see Appendix C). Because the perception of uncontrollable negative outcomes as a source of stress was of particular interest, an appropriate stressful experience was defined as one involving a sense that, for a job-related task, the respondent felt that attaining the desired outcome would be impossible: "Think of a job-related task that has recently been frustrating to you. By frustrating, we mean that you've felt unable (or likely to be unable) to achieve an outcome that you want." (See Appendix D for a summary of responses).

Latack's coping measure has been used as a measure of diversity of coping and of total coping. In this study scores were calculated for each of the four subscales, escape-cognitive, escape-active, control-cognitive, and control-active coping. The internal consistencies (Cronbach's coefficient alpha) of escape-
cognitive, escape active, control cognitive, and control active coping were calculated at .53, .62, .74, and .80, respectively. The two escape factors were only moderately reliable for this sample.

Possible scores ranged from a low of 6 to a high of 30 for escape-cognitive coping, with a higher score indicating greater escape-cognitive coping, from a low of 5 to a high of 25 for escape-active coping, with a higher score indicating greater escape-active coping, from a low of 4 to a high of 20 for control-cognitive coping, with a higher score indicating greater control-cognitive coping, and from a low of 13 to a high of 65 for control-active coping, with a higher score indicating greater control-active coping. Finally, for total coping, possible scores ranged from a low of 28 to a high of 140, with a higher score indicating greater total coping. For the MR analyses, coping scales were used in ratio to total coping (Vitaliano, Maiuro, Russo, & Becker, 1987).

Demographic data. Respondents were be asked to complete a brief section of questions concerning demographic data (see Appendix C). This section asked for age, marital status, years of teaching, years of post-secondary education, years of non-teaching employment. Although these data could be personally identifying, respondents understood that they had the option of failing to complete any section.

Data Analysis

Most missing data occurred on the Expanded ASQ. However, among the questionnaires included in this study, only 2.5% of the items on this scale were left unanswered. For all missing data,
mid-point scores were substituted, in order to facilitate factor analysis of the scales. Because the Expanded ASQ (Peterson & Villanova, 1988) taps attributions for negative events arising from both work-related and general life events, the measure was factor-analyzed to check for domain specificity. Latack's coping measure was also factor-analyzed for this sample to inspect this measure's items clusters.

Even though all the reported analyses were conducted using mid-point scores for missing data, regression analyses were also conducted substituting mean scores. Results (not reported) were not appreciably different using mean-score substitutions.

Descriptive statistics, including means, standard deviations and Pearson product-moment correlations for pairwise comparisons were calculated. The correlations describe the relations among the predictor variables and between each predictor and the criterion.

The hypotheses were tested by means of hierarchical multiple regression (MR) analyses. The predictor variables were entered into the regression equation in the following order: teacher stress (level 1), the composite attribution variables (levels 2 and 3), the teacher stress by attribution product-terms (level 4), and the coping ratios (level 5). Product-terms and coping ratios were entered simultaneously within levels 4 and 5 respectively.

Hierarchical MR models tested the amount of variance in emotional exhaustion that was explained by coping above and beyond that which was explained by the product-term (teacher...
stress by attribution) variables, when teacher stress and the attribution composites were held constant.

Two hierarchical MR analyses were conducted to test the hypotheses. One MR regressed emotional exhaustion onto (a) teacher stress, (b) internal-stable (characterological) attributions, (c) external-stable (task difficulty) attributions, (d) the teacher stress by internal-stable attributions product-term, (e) the teacher stress by external-stable attributions product-term, (f) the ratio of escape-cognitive coping to total coping, and (g) the ratio of escape-active coping to total coping.

A second MR analysis regressed emotional exhaustion onto (a) teacher stress (b) external-unstable (luck) attributions, (c) internal-unstable (behavioural) attributions, (d) the teacher stress by external-unstable attributions product-term, (e) the teacher stress by internal-unstable attributions product-term, (f) the ratio of control-cognitive coping to total coping, and (g) the ratio of control-active coping to total coping.

Variance accounted for by teacher stress and for attributions was removed first. Attractions are believed to be conditioned by stressful events and are themselves made with reference to antecedent events (Marsh, 1974; Peterson et al., 1981).

The teacher stress by attribution product-terms were entered next. In learned-helplessness theory, internal-stable and external-stable attributions for negative outcomes are associated with helplessness only in the face of uncontrollable negative events (Peterson et al., 1981). In burnout theory, behavioural
attributions are thought to present a vulnerability to burnout within stressful work environments (Edelwich & Brodsky, 1980; Freudenberger, 1980; Savicki & Cooley, 1983).

Coping was entered last. In the Lazarus and Folkman (1984) theoretical framework, personality variables and outcome appraisals are antecedents of coping processes. Mikulincer (1989b) found attribution style to be antecedent to coping, which in turn predicted performance deficits.

Scales were standardized to remove the confounding effect of differing units. Because all scales were standardized, unstandardized regression coefficients were reported. For most reported findings, an alpha level of .05 was adopted. In the case of product-terms, however, the alpha level for the t test level of the unstandardized regression coefficients was set at .10. Both Finney and his colleagues (Finney, Mitchell, Cronkite, & Moos, 1984) and Champeau and Peters (1987) have argued that product-terms should be reported at less-stringent levels to guard against Type II errors. In this way, a larger body of evidence may be gathered to counteract the conservative effect of predominantly low-power studies. In this study, the risks involved in reporting relationships as a result of Type I errors were considered low. Relationships thus reported are not likely to be considered of clinical importance.

Product-terms were graphed following Cohen's method (Cohen & Cohen, 1983). Significant product-terms were interpreted by first calculating unstandardized regression coefficients from a model including only the product-term (stress by attribution) and its composite variables as predictors.
Coded values of 1 and -1, representing one standard deviation above and below the grand mean on the stress variable, were taken as the high and low levels when significant contributions were found. Scores on the criterion variable were indicated on the y axis, scores on the composite attribution variables on the x axis. High and low teacher-stress means were plotted at two points, coded at 1 and -1 along the x axis, representing one standard above and below the grand mean on the attribution composite. These plotted points anchored two regression lines, one for high-stress and one for low-stress groups, on the criterion variables (see Figures 3 and 4).
Results

Descriptive Statistics and Preliminary Analyses

The demographic make-up of the respondents is shown in Table 2. Within the sampled age-range of 30 to 55 years, the mean age was 44.1 years (SD = 6.5). Most were married (88.9%). The mean number of years of post-secondary education was 5.8 years (SD = 3.3). This tally seems to be of doubtful usefulness, however; the range of 0 - 19 years indicates that this question must have been misinterpreted by some.

The mean number of years of employment in the present job was 10.2 years (SD = 6.3); the mean number of years in non-

Table 2

Demographic Characteristics of Sample (N=108)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>%</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
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<td>6.5</td>
<td>30-55</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Single</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>88.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years of post-secondary education</td>
<td>5.8</td>
<td>3.3</td>
<td></td>
<td>0-19</td>
</tr>
<tr>
<td>Years non-teaching employment</td>
<td>12.1</td>
<td>6.7</td>
<td></td>
<td>0-33</td>
</tr>
<tr>
<td>Years teaching at ...</td>
<td>10.2</td>
<td>6.3</td>
<td></td>
<td>0-25</td>
</tr>
</tbody>
</table>

Some respondents seem to have misunderstood this question.
teaching employment was 12.1 years ($SD = 6.7$). Because post-secondary instructors are under-represented in the literature, there are few points of comparison for these data.

Because of the work-related focus of this study, the Expanded ASQ (Peterson & Villanova, 1988) was factor-analyzed in a preliminary analysis to test the measure's domain-specificity. Neither exploratory nor confirmatory analyses yielded an exclusively work-related factor on either the locus or stability dimensions. Nor did exploratory or confirmatory analyses yield any other factor recognizable by the event's domain. Untapped considerations, such as the perceived importance of an event, may instead have influenced factor loadings.

Contrary to Bagby and his colleagues' findings (Bagby, Atkingson, Dickens, & Gavin, 1990), locus and control items did load onto two separate factors in the context of a rotated oblimin (four-factor) analysis. Therefore, Peterson & Villanova's (1988) dimensions were used in this study.

Latack's coping measure (1986) was also factor-analyzed to explore the loadings of its items (cf. Leiter, 1991). Although confirmatory analyses supported to some extent Latack's clusters, they indicated many discrepancies. Using .35 as a minimum loading criterion, two, three, and four-factor rotated oblimin solutions yielded factors for the present sample that differed from Latack's clusters (see Appendix D). Associations between the derived coping factors and burnout tended to be stronger for this sample than were associations resulting from Latack's clusters (Appendix D, Table 8). Nevertheless, Latack's clusters were used in this study.
Table 3 shows the means and standard deviations for the predictor and criterion variables (N = 108). Neither skewness nor kurtosis was a problem with any of the scales used.

Emotional exhaustion (M = 22.7, SD = 11.4) and personal accomplishment (M = 32.2, SD = 4.9) scores were similar to those reported for teachers elsewhere in the burnout literature. Among junior high and elementary school teachers, Nagy and Davis (1985) reported emotional exhaustion means of 22.3 (SD = 11.4) and personal accomplishment means of 37.5 (SD = 7.6).

Item emotional exhaustion means (M = 2.5, SD = 1.3) and personal accomplishment means (M = 4.0, SD = 6.1) indicated that this sample had a similar level of emotional exhaustion but seemingly lower personal accomplishment scores compared with other human services professionals. Although Maslach and Jackson (1981) reported similar mean scores for both emotional exhaustion (M = 2.7, SD = 1.3) and personal accomplishment (M = 4.2, SD = 1.0) among human service occupations (N = 420), Lee and Ashforth (1990) found seemingly higher personal accomplishment scores.

Among supervisors and managers in human services (N = 171), they reported an emotional exhaustion mean of 22.3 (SD = 12.9) and a personal accomplishment mean of 46.8 (SD = 12.7). Among service professionals in a large public welfare agency, they reported an emotional exhaustion mean of 23.2 (SD = 13.5) and a personal accomplishment mean of 46.6 (SD = 12.2).

Among workers in a mental hospital (N = 177), Leiter (1991) reported personal accomplishment scores similar to those in the present study. For Leiter's population the mean personal
Table 3
Means and Standard Deviations for Predictor and Criterion Variables (N = 108)

<table>
<thead>
<tr>
<th>Measure</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Emotional exhaustion</td>
<td>22.7</td>
<td>11.4</td>
</tr>
<tr>
<td>2 Personal accomplishment</td>
<td>32.2</td>
<td>4.9</td>
</tr>
<tr>
<td>3 Job satisfaction</td>
<td>16.9</td>
<td>3.9</td>
</tr>
<tr>
<td>4 Teacher stress</td>
<td>90.3</td>
<td>17.5</td>
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<tr>
<td>5 Locus attribution</td>
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<td>19.8</td>
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<tr>
<td>6 Stability attribution</td>
<td>113.0</td>
<td>18.5</td>
</tr>
<tr>
<td>7 Escape coping</td>
<td>32.8</td>
<td>5.6</td>
</tr>
<tr>
<td>8 Control coping</td>
<td>60.0</td>
<td>9.3</td>
</tr>
<tr>
<td>9 Escape-cognitive coping</td>
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<tr>
<td>10 Escape-active coping</td>
<td>14.1</td>
<td>3.7</td>
</tr>
<tr>
<td>11 Control-cognitive coping</td>
<td>13.8</td>
<td>3.2</td>
</tr>
<tr>
<td>12 Control-active coping</td>
<td>46.3</td>
<td>7.2</td>
</tr>
</tbody>
</table>

a Items are scored with higher scores indicating more emotional exhaustion and stress but less personal accomplishment.

b Items are scored with higher scores indicating more internality and stability.
accomplishment score was 33.6 (SD = 5.8); the mean emotional exhaustion score was 20.9 (SD = 9.1).

Although personal accomplishment scores for both this population and Leiter's (1991) population of mental health workers seem low when compared to scores reported for other populations (Maslach & Jackson, 1981; Lee & Ashforth, 1990), the grounds for comparison are not sufficient to determine whether differences are real.

The teacher stress mean (M = 90.3, SD = 17.5) for this sample was converted to item means for each of the teacher stress factors in order to facilitate comparison with other samples. Item means for role ambiguity (2.5, SD = .8), role overload (2.8, SD = .8), role conflict (3.2, SD = .9), non-participation (3.1, SD = .7), task stress (2.8, SD = .8), and supervisory support (3.1, SD = .7) tended to be higher than those reported for any of the groups studied by Long and her colleagues (Long, Schutz, Kendall, & Hunt, 1986). These latter groups included elementary teachers, secondary teachers, administrators, coordinator consultants, supervisory aides, clerical and support staff, and custodial staff. Secondary school teachers, for example, reported means of 2.0, role ambiguity; 2.5, role overload; 2.4, role conflict; 2.5, non-participation; 3.0, task stress; and 2.1, supervisory support. (Standard deviations were not reported). Whereas respondents in this sample reported job satisfaction item means of 3.4 (SD = .8), the secondary teachers studied by Long and her colleagues (1986) reported job satisfaction means of only 2.4.
For this sample, item mean responses on locus ($M = 4.0$, $SD = 0.8$) and stability ($M = 4.7$, $SD = 0.8$) attribution dimensions for negative events indicated that, relative to introductory psychology students, the present population tended to give more external and stable causes for negative events. Among introductory male and female psychology students ($N = 140$), Peterson and Villanova (1988) reported mean locus attribution responses of $4.6$ ($SD = 0.6$) and mean stability attribution responses of $4.4$ ($SD = 0.7$).

The escape coping mean ($32.8$, $SD = 5.6$) and the control coping mean ($60.0$, $SD = 9.2$) for this sample were similar to those for other populations. Among managerial and professional staff of a manufacturing firm and an osteopathic hospital ($N = 109$), Latack (1986) reported escape coping means of $34.5$ ($SD = 6.5$), $23.4$ ($SD = 5.0$), and $15.4$ ($SD = 3.3$) with respect to role ambiguity, role conflict, and role overload stressors, respectively. Again with respect to role ambiguity, role conflict, and role overload stressors, she reported control coping means of $63.6$ ($SD = 7.2$), $74.0$ ($SD = 10.1$) and $87.6$ ($SD = 11.0$), respectively. Even though the most significant stressors for this sample were role overload and task stress, the coping means for this sample were most consistent with those for role ambiguity stressors among managerial and professional staff.

Among supervisors and managers in human services ($N = 171$), Lee and Ashforth (1990) also reported comparable coping means: escape-coping ($M = 27.4$, $SD = 5.2$) and control-coping ($M = 66.9$, $SD = 9.3$). Among mental hospital workers ($N = 171$), Leiter
(1991) reported comparable coping means as well: escape-coping ($M = 31.1$, $SD = 6.4$) and control-coping ($M = 62.4$, $SD = 8.8$).

Pearson Product Moment Correlations Between Variables

The only significant correlation between the interval demographic data and any of the predictor variables was a modest positive correlation between age and job (dis)satisfaction, $r = .18$, $p < .05$ (see Table 4).

Analysis of variance (ANOVA) showed that married subjects did not differ significantly from single subjects with respect to any of the predictor variables, emotional exhaustion, personal accomplishment and job dissatisfaction (all $Fs < 1$).

Teacher stress was the predictor variable most strongly associated with emotional exhaustion, $r = .62$, $p < .001$ (see Table 5). All the TSI factors correlated significantly with both emotional exhaustion and with job (dis)satisfaction, although only the task-stress, role-overload, and supervisory-support correlated significantly with personal accomplishment. Task stress and role overload showed moderate associations with emotional exhaustion (both $rs = .59$). Role ambiguity ($r = .46$), role conflict ($r = .43$), and non-participation ($r = .34$) also showed moderate associations with emotional exhaustion, whereas supervisory support ($r = .26$) showed only a weak association with emotional exhaustion (see Appendix D, Table 1).

The locus attribution dimension correlated weakly with teacher stress and with emotional exhaustion, $rs = -.17$, $p < .05$ (see Appendix D, Table 2), even though no association between the locus dimension and either stress or burnout had been
Table 4

Correlations for Demographic and Criterion Variables (N = 108)

<table>
<thead>
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<th>Variable</th>
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<td>.18*</td>
<td>.08</td>
<td>-.03</td>
<td>.15</td>
<td>.46**</td>
<td>.17*</td>
<td>1.00</td>
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</tbody>
</table>

*p<.05  **p<.001 Two-tailed p<.05 = .19, p<.001 = .32.

Abbreviations:
1 = age
2 = years of post-secondary education
3 = years of non-teaching employment
4 = years teaching at...
5 = emotional exhaustion
6 = low personal accomplishment
7 = job dissatisfaction
Table 5

Correlations for Predictor and Criterion Variables (N = 108)

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<td>-0.19*</td>
<td>-0.03</td>
<td>0.04</td>
<td>0.20*</td>
<td>-0.17*</td>
<td>-0.02</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>0.22*</td>
<td>0.08</td>
<td>0.07</td>
<td>-0.10</td>
<td>-0.10</td>
<td>0.24*</td>
<td>0.21*</td>
<td>-0.28*</td>
<td>-0.21*</td>
<td>0.27*</td>
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</tr>
<tr>
<td>12</td>
<td>0.60**</td>
<td>0.00</td>
<td>0.23*</td>
<td>-0.22*</td>
<td>-0.02</td>
<td>0.06</td>
<td>0.13</td>
<td>-0.08</td>
<td>-0.14</td>
<td>0.46**</td>
<td>0.17*</td>
<td>1.00</td>
</tr>
</tbody>
</table>

*p < .05  **p < .001  Two-tailed p < .05 = .19, p < .001 = .32.

Abbreviations:
1 = teacher stress
2 = internal-stable (characterological) attributions
3 = external-stable (task-difficulty) attributions
4 = internal-unstable (behavioural) attributions
5 = external-unstable (luck) attributions
6 = escape-cognitive coping
7 = escape-active coping
8 = control-cognitive coping
9 = control-active coping
10 = emotional exhaustion
11 = low personal accomplishment
12 = job (dis)satisfaction
anticipated. The stability dimension failed to correlate significantly with either teacher stress or burnout. This lack of association raised concerns about the validity of the stability dimension.

As a validity check on the attribution dimensions, respondents had been asked to identify a frustrating event in the work situation and to evaluate the locus and stability of its cause. The resulting single-item scales correlated with the Expanded ASQ scales, $r = .37$, $p < .001$, locus, and $r = .30$, $p < .001$, stability (see Appendix D, Table 2). For this single item, the locus dimension was unassociated with the burnout criteria, as expected. As expected too, the stability dimension for this single item was positively associated with both teacher stress and emotional exhaustion, $r = .20$, $p < .05$, and $r = .18$, $p < .05$, respectively.

Of the composite attributions, only external-stable (task-difficulty) and internal-unstable (behavioural) attributions correlated significantly with emotional exhaustion, $r = .27$ and $r = -.19$, respectively. Although these attributions also correlated significantly with job (dis)satisfaction, no significant correlations were found between any composite attribution variables and low personal accomplishment (see Table 5).

The intercorrelation between external-stable (task-difficulty) and internal-unstable (behavioural) attributions was very high, $r = -.93$, as was that between internal-stable (characterological) and external-unstable (luck) attributions, $r$
=.94. For practical purposes, these attribution composites were taken to be opposite poles of the same scale (see Table 5).

Intercorrelations between the corresponding product-terms, constructed as weighted variables for the purpose of this matrix, were also very high: $r = -.90$ between both the universal-helplessness (stress by external-stable) and enthusiasm (stress by internal-unstable) product-terms and between personal-helplessness (stress by internal-stable) and morale (stress by external-unstable) product-terms. The product-terms were, for practical purposes, also taken as opposite poles of single scales (see Appendix D, Table 3). All weighted product-terms correlated as expected with the criterion variables (see Appendix D, Table 3).

Both the escape-active and the control-cognitive coping ratios correlated significantly, as expected, with emotional exhaustion, $r = .20$ and $r = -.17$, respectively. The expected associations between emotional exhaustion and both the escape-cognitive and the control-active coping ratios, on the other hand, failed to reach significance (see Table 5).

All coping ratios correlated significantly as expected with low personal accomplishment: escape-cognitive ratio, $r = .24$; escape-active ratio, $r = .21$; control-cognitive ratio, $r = -.28$; and control-active ratio, $r = -.21$ (see Table 5). None correlated significantly with job (dis)satisfaction.

Of the coping ratios, only the cognitive ratios correlated significantly with any of the composite attribution scales. Control-cognitive coping correlated positively with internal-unstable (behavioural) attributions, $r = .17$. Escape-cognitive
coping correlated positively with internal-stable (characterological) attributions, \( r = .16 \), and negatively with both internal-unstable (behavioural) and external-unstable (luck) attributions, both \( rs = -.17 \).

The expected negative correlation between external-stable (task difficulty) attributions and control-cognitive coping, \( r = -.15 \), and the expected positive correlation external-stable (task difficulty) attributions and escape-cognitive coping, \( r = .14 \), failed to reach significance, as did correlations between the active coping ratios and the composite attribution variables (see Table 5).

**Regression Analyses**

Two hierarchical multiple regression analyses were conducted using emotional exhaustion as the criterion. The main regression was significant, \( F(7,100) = 11.04 \ p < .001 \). The predictor variables in the equation accounted for 44% (adjusted \( R^2 = .40 \)) of the variance. Table 6 summarizes the findings. In an hierarchical manner, the variables were entered as follows: level 1, teacher stress; level 2, internal-stable attributions; level 3, external-stable attributions; level 4, the personal-helplessness product-term (stress by internal-stable attributions) and the universal-helplessness product-term (stress by external-stable attributions); level 5, the escape-cognitive coping ratio and the escape-active coping ratio. The product-terms and coping ratios were entered simultaneously in levels 4 and 5, respectively.

Teacher stress was entered first. It accounted for 38% of the variance and was positively associated, as expected, with
Table 6

Multiple Regression of Emotional Exhaustion on "Helplessness-Orientation" Predictors (N = 108)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cumulative R</th>
<th>2 R Increase</th>
<th>t</th>
<th>df</th>
<th>p</th>
<th>B</th>
<th>a</th>
</tr>
</thead>
<tbody>
<tr>
<td>+Teacher stress</td>
<td>.38</td>
<td></td>
<td>8.05</td>
<td>1,106</td>
<td>.001</td>
<td>6.62***</td>
<td></td>
</tr>
<tr>
<td>+Internal-stable attributions</td>
<td>.38</td>
<td>.00</td>
<td>&lt;1</td>
<td>1,105</td>
<td>.702</td>
<td>.35</td>
<td></td>
</tr>
<tr>
<td>+External-stable attributions</td>
<td>.39</td>
<td>.01</td>
<td>1.41</td>
<td>1,104</td>
<td>.162</td>
<td>1.10</td>
<td></td>
</tr>
<tr>
<td>Stress x internal-stable attributions</td>
<td>&lt;1</td>
<td>1,102</td>
<td>.392</td>
<td>.41</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress x external-stable attributions</td>
<td>.41</td>
<td>.02</td>
<td>1.64</td>
<td>1,102</td>
<td>.103</td>
<td>1.75*</td>
<td></td>
</tr>
<tr>
<td>+Escape-cognitive coping ratio</td>
<td>.44</td>
<td>.03</td>
<td>2.14</td>
<td>1,100</td>
<td>.035</td>
<td>1.88**</td>
<td></td>
</tr>
</tbody>
</table>

\[ F(7,100) = 11.04 \ p < .001. \]

+ Each new level in the hierarchical analysis is indicated by a plus sign.

a The B values are the unstandardized coefficients from the final simultaneous analysis. The constant value in the equation is 22.29.

b Adjusted cumulative R increase = .40

*p<.10. **p<.05. ***p<.01.
emotional exhaustion. External-stable attributions accounted for an additional 1% of variance in emotional exhaustion; this contribution was not significant. Internal-stable attributions made no additional contribution to emotional exhaustion.

The personal-helplessness and universal-helplessness product-terms, entered simultaneously, accounted for an additional 2% of variance, with the contribution of universal helplessness (stress by external-stable attributions) approaching significance at the $p < .103$ level. When coping was added, the unique contribution of universal helplessness reached the $p < .07$ level of significance.

Escape-cognitive and escape-active coping, entered simultaneously, accounted for an additional 3% of variance in emotional exhaustion, with escape-active coping making a significant contribution. Escape-cognitive coping was positively associated, as expected, with emotional exhaustion.

The contribution of the the universal-helplessness (stress by external stable attributions) product-term, considered significant at $p < .103$, was subsequently graphed for interpretation. Figure 3 shows that, under high-stress conditions, external-stable attributions were positively associated with emotional exhaustion; under low stress conditions, there was little or no relationship between external-stable attributions and emotional exhaustion.

The corollary regression was also significant $F(7,100) = 11.15$ $p < .001$. The predictor variables in the equation accounted for 44% (adjusted $R$ square = .40) of the variance.
Figure 3. Regression of emotional exhaustion on external-stable attributions within high-stress and low-stress subgroups. (High stress: $Y = 2.47x + 29.05$; low stress: $Y = -.47x + 15.56$).

Note. Emotional exhaustion $M = 22.7$, $SD = 11.4$. 

 *=high stress
 o=low stress
Table 7 summarizes the findings. In an hierarchical manner, the variables were entered as follows: level 1, teacher stress; level 2, external-unstable attributions; level 3, internal-unstable attributions; level 4, the morale product-term (stress by external-unstable attributions) and the enthusiasm product-term (stress by internal-unstable attributions); level 5, the control-cognitive coping ratio and the control-active coping ratio. The product-terms and coping ratios were entered simultaneously within levels 4 and 5, respectively.

Teacher stress was entered first. Again it accounted for 38% of the variance and was positively associated, as expected, with emotional exhaustion. Composite external-stable and internal-stable attributions accounted for no additional variance in emotional exhaustion.

The morale and enthusiasm product-terms, entered simultaneously, accounted for an additional 3% of variance, with enthusiasm making a contribution significant at the $p < .03$ level. When coping was added the unique contribution of the enthusiasm product-term reached the $p < .02$ level of significance.

Control-cognitive and control-active coping, entered simultaneously, added an additional 3% of variance to emotional exhaustion, with the contribution of control-cognitive coping approaching significance at the $p < .053$ level. Control-cognitive coping was negatively associated, as expected, with emotional exhaustion.

The significant contribution of the enthusiasm (stress by internal-unstable attributions) product-term was graphed for
<table>
<thead>
<tr>
<th>Variable</th>
<th>Cumulative 2 R</th>
<th>R Increase</th>
<th>t</th>
<th>df</th>
<th>p</th>
<th>a R</th>
</tr>
</thead>
<tbody>
<tr>
<td>+Teacher stress</td>
<td>.38</td>
<td></td>
<td>8.05</td>
<td>1,106</td>
<td>.001</td>
<td>6.78***</td>
</tr>
<tr>
<td>+External-unstable attributions</td>
<td>.38</td>
<td>.00</td>
<td>&lt;1</td>
<td>1,105</td>
<td>.842</td>
<td>-.50</td>
</tr>
<tr>
<td>+Internal-unstable attributions</td>
<td>.38</td>
<td>.00</td>
<td>&lt;1</td>
<td>1,104</td>
<td>.391</td>
<td>-.50</td>
</tr>
<tr>
<td>+Low stress x external-unstable attributions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low stress x internal-unstable attributions</td>
<td>.41</td>
<td>.03</td>
<td>2.18</td>
<td>1,102</td>
<td>.032</td>
<td>-2.42**</td>
</tr>
<tr>
<td>+Control-cognitive coping ratio</td>
<td></td>
<td></td>
<td>-1.96</td>
<td>1,100</td>
<td>.053</td>
<td>-1.75*</td>
</tr>
<tr>
<td>Control-active coping ratio</td>
<td>.44</td>
<td>.03</td>
<td>&lt;1</td>
<td>1,100</td>
<td>.842</td>
<td>-.18</td>
</tr>
</tbody>
</table>

F(7,100) = 11.15 p < .001.

+ Each new level in the hierarchical analysis is indicated by a plus sign.

a The $R$ values are the unstandardized coefficients from the final simultaneous analysis. The constant value in the equation is 22.24.

b Adjusted cumulative $R$ increase = .40

*p < .10.  **p < .05.  ***p < .01.
interpretation. Figure 4 shows that internal-unstable attributions were positively associated, as expected, with emotional exhaustion under low-stress conditions; they were negatively associated with emotional exhaustion under high-stress conditions.

**Exploratory Analyses**

Both hypotheses were explored using personal accomplishment and job (dis)satisfaction as criteria. For personal accomplishment, both regressions were significant (see Appendix D). The anticipated associations with stress and attributions tended to be weaker for personal accomplishment than they were for emotional exhaustion; the associations with coping tended to be stronger (see Appendix D, Tables 4 & 5). All coping strategies contributed as expected to personal accomplishment. As expected, greater escape-cognitive and escape-active coping were associated with lower personal accomplishment, and greater control-cognitive and control-active coping were associated with greater personal accomplishment. Cognitive coping strategies made larger contributions than did active strategies (see Appendix D).

For job (dis)satisfaction, both regressions were again significant (see Appendix D, Tables 6 & 7). Only teacher stress contributed significantly to job dissatisfaction.

**Post-Hoc Analysis**

To explore the possible effect of a concurrent institutional crisis on the present findings, correlations among predictor and criterion variables were calculated for those questionnaires (n = 16) distributed after budgetary issues had been resolved.
Figure 4. Regression of emotional exhaustion on internal-unstable attributions within high-stress and low-stress subgroups. (High stress: \( Y = -3.06x + 29.01 \); low stress: \( Y = 1.46x + 15.53 \)).

Note. Emotional exhaustion \( M = 22.7 \), SD = 11.4.
this greatly reduced sample, internal-stable (characterological) attributions were positively associated with both emotional exhaustion ($r = .57, p < .05$) and low personal accomplishment ($r = .43, p < .05$), as had originally been expected. In addition, luck attributions were negatively associated with emotional exhaustion ($r = -.55, p < .05$) and low personal accomplishment ($r = -.40$), although the latter association failed to reach significance (see Appendix D, Table 9). No such significant associations were found for the total sample between indicators of personal helplessness and the burnout criteria. On the other hand, associations between indicators of universal helplessness and emotional exhaustion, found for the total sample, were not found for this reduced sample.
Discussion

The hypothesis that burnout is a form of psychological helplessness was tested by adapting a learned-helplessness model to burnout. As expected, attributions and coping strategies consistent with universal helplessness contributed to emotional exhaustion. However, those attributions and coping strategies consistent with personal helplessness failed to make significant contributions. These results indicate that burnout may resemble universal more than personal helplessness.

Universal Helplessness

As expected, the tendency under high-stress conditions to make task difficulty (external-stable) attributions for negative events was associated with greater emotional exhaustion. This finding, along with the stronger contribution of escape-active coping relative to escape-cognitive coping, supported the hypothesis that emotional exhaustion may be a job-specific form of universal helplessness.

Associations were modest, however. Task difficulty (external-stable) attributions correlated only weakly with emotional exhaustion, $r = .27$, $p < .05$, accounting for only 7% of the variance in emotional exhaustion. When teacher stress was first removed, characterological (internal-stable) and task difficulty (external-stable) attributions together contributed only 3% (unadjusted $R^2$) to the explained variance in emotional exhaustion, a small contribution (Cohen, 1988). Correlations between escape-active coping and emotional exhaustion were also weak, $r = .20$, $p < .05$, with escape-active
coping accounting for only 4% of the variance in emotional exhaustion. When teacher stress and both characterological (internal-stable) and task difficulty (external-stable) attributions were first removed, escape-active coping and escape-cognitive coping together contributed only 3% (unadjusted R square) to explained variance in emotional exhaustion.

By supporting a universal-helplessness explanation of burnout, these findings nevertheless support Savicki and Cooley's (1983) burnout hypotheses. Savicki and Cooley suggested that burnout, measured as depersonalization and low personal accomplishment, would differ from job dissatisfaction in being more strongly associated with a defensive loss of involvement and low perceived control under high-stress conditions. The present findings indicate that burnout, measured as emotional exhaustion, does differ from job dissatisfaction in being better explained by attributions. Under high-stress conditions, burnout was more strongly associated with task difficulty (external-stable) attributions than was job dissatisfaction. Had burnout been measured as depersonalization rather than as emotional exhaustion, the contribution of task difficulty (external-stable) attributions to burnout might have been stronger (Cooley & Savicki, 1987; McMullen & Krantz, 1988; Maslach & Jackson, 1981; Quigley et al., 1987).

The tendency to make behavioural (internal-unstable) attributions for negative events under low-stress conditions was also associated with greater emotional exhaustion. So too was lower control-cognitive coping. Again, however, associations were modest. When teacher stress was first removed, luck
attributions together contributed only 3% (unadjusted) to emotional exhaustion variance, a small contribution (Cohen, 1988). The negative correlation between control-cognitive coping and emotional exhaustion was weak, \( r = -0.17, p < .05 \), with control-cognitive coping accounted for only 2.9% of the variance in emotional exhaustion. When teacher stress and both luck (external-unstable) and behavioural (internal-unstable) attributions were first removed, control-cognitive coping and escape-active coping together contributed only 3% (unadjusted R square) to explained variance in emotional exhaustion.

Whereas behavioural attributions under low-stress conditions had been expected to represent a vulnerability to personal helplessness and to burnout, the present findings suggest that behavioural attributions may instead represent a vulnerability to universal helplessness and to burnout. Again, this finding is consistent with Savicki and Cooley's (1983) model of burnout (cf. Edelwich & Brodsky, 1980; Freudenberger, 1980).

Testing causal implications of the present findings is beyond scope of this study. Nevertheless, the association between behavioural attributions and control-cognitive coping, \( r = 0.17, p < .05 \), lends support to a suggestion that over-enthusiasm leads to burnout by triggering exaggerated effort (Edelwich & Brodsky, 1980; Freudenberger, 1980; Savicki & Cooley, 1983). Both Brickman and his colleagues (Brickman et al., 1982) and Savicki and Cooley (1983) have suggested a complementary explanation for the association between behavioural attributions and burnout under low-stress conditions. By decreasing the
competence of helping professionals, exaggerated behavioural attributions may increase the frequency with which negative outcomes occur.

**Personal Helplessness**

More striking than the contributions to emotional exhaustion made by the universal-helplessness and enthusiasm product-terms is the failure of the personal-helplessness and high-morale product-terms to make similar contributions. Predictions associated with the learned-helplessness-depression hypothesis were made with greater confidence than were those associated with universal helplessness. Nevertheless, support for the more established hypotheses was extremely tenuous. Despite the suspected confounding of attributions with personal accomplishment, the personal-helplessness product-term failed to make any unique contribution to personal accomplishment. The greater contribution to personal accomplishment made by escape-cognitive relative to escape-active coping had been anticipated on the assumption that such coping would be associated with personal helplessness. Such, however, seemed not to be the case.

Several explanations may account for the failure of the more established learned-helplessness-depression hypothesis. First, a significant percentage of the male respondents sampled may have been "defensive externals" (Hochreich, 1974), i.e., internals who reported external attributions falsely to save face when threatened with failure. In such a case, task-difficulty (external-stable) attributions would have masked underlying characterological (internal-stable) attributions. Defensive externals would be expected to exhibit exaggerated blame-
projection and hostility and might be expected to cope by means of depersonalization (cf. Lee & Ashforth, in press). Other studies (Anderson & Iwanicki, 1984; Etzion & Pines, 1986; Greenglass & Burke, 1988; Greenglass et al., 1990; Maslach & Jackson, 1981; Schwab & Iwanicki; 1982) have indicated that characteristics of burnout may be gender-specific.

Alternately, the anger prevalent in the institution when the data were collected may have temporarily reduced characterological attributions for negative events. Questionnaires (n = 16) distributed after the term and budget crisis ended showed that, for this much reduced sample, characterological (internal-stable) and luck (external-unstable) attributions correlated as expected with burnout scores (see Appendix D, Table 7). The crisis and non-crisis groups may actually have been different in this respect.

Attributing negative events to one's character or to luck may have affected the perception of stress and burnout in other unexpected ways. Not only did characterological (internal-stable) and luck (external-unstable) attributions fail to correlate significantly with burnout, they also failed to correlate significantly with teacher stress and job dissatisfaction as well. Those who made characterological attributions may have been less inclined to identify external sources of distress. For the instructors sampled (N = 108), only "disengagement" coping was associated as expected with characterological and luck attributions (see Appendix D, Table 6). Disengagement or withdrawal is generally associated depression (Shreeve, 1984).
It is also possible, however, that burnout and depression are distinct constructs. Those who report greater emotional exhaustion and lower personal accomplishment may be more inclined than those who are depressed to believe that their peers would encounter failures similar to their own. Such a belief in universal failure is the distinguishing characteristic of universal helplessness (Abramson et al., 1978). Should the tendency to attribute blame externally distinguish burnout victims from those who are depressed, burnout would be expected to involve less damage to self-esteem than does depression (Abramson et al., 1978). Burnout victims might then be expected to fit Freudenberger's description of individuals who "find fault with everything and everyone around them" (Freudenberger, 1977, p. 26) better than Maslach's description of victims "prone to lay blame on some flaw within themselves" (Maslach, 1982a, p. 239). Maslach herself noted that workers she observed "experienced a sense of failure and a loss of self-esteem, and a state of depression would often set in" (p. 239).

Limitations

The present findings were limited by the validity of the study's measuring instruments and by the nature of the study's design and methodology. They generalize properly only to volunteers from the population of male instructors (N = 316) studied at one urban post-secondary setting. Volunteers (47%) in this study may have been either less burned out or more inclined to blame others than those who declined to participate.

All the measures used were self-report questionnaires. In a self-report study, those who are burned out may perceive and
report stress, attributions, and coping differently from those who are not. Teacher stress and attribution style may be additionally confounded. Respondents who blame external causes may identify more stress in their environments than those who blame internal causes. Among this sample (N = 108), greater teacher stress scores were associated with greater task difficulty (external-stable) attributions for negative events, $r = .26, p < .05$, and lower luck (internal-unstable) attributions for negative events, $r = -.20, p < .05$. Although intercorrelations of this magnitude were not of concern here, they do indicate that confounding between personal and situations variables may occur in self-report studies. The findings of such studies should not, therefore, be uncritically taken to support situational (or personal) explanations of burnout.

Peterson and Seligman (1984) have advised particular caution when using self-report assessments of attributions. The cognitive causes of depression may be automatic rather than conscious or voluntary responses, and as such they may be more accessible in interview or clinical settings than in questionnaire surveys. Internal attributions for negative events may be especially vulnerable to unpredictable reporting among men. If defensive reporting, such as Hochriech (1974) attributed to low-trust male internals, were to occur in burnout conditions, such defensiveness would undermine the validity of both the characterological (internal-stable) and task difficulty (external-unstable) attribution composites.

Attribution measures assessing a general style are subject to the further criticism that they may yield results that are not
relevant to particular situations, especially if the context of those situations fairly clearly defines causality. In this study, respondents were asked, in the introduction to the Latack Coping Measure (Latack, 1986), to identify a specific failure on the job and to indicate a locus and stability attribution with respect to that event. The resulting single-item scales correlated with the Expanded ASQ scales, $r = .37$, $p < .001$, locus and $r = .30$, $p < .001$, stability, indicating some degree of consistency between a general style and particular situations. However, the significant correlations between the single-item stability scale and both teacher stress and emotional exhaustion, $r = .20$, $p < .05$, and $r = .18$, $p < .05$, respectively, in the absence of significant correlations for full-scale stability attributions, suggest that a more specific and work-related scale might have greater validity than the Expanded ASQ.

The Expanded ASQ may be criticized too for placing internality and externality on the same dimension, as does Rotter's (1966) locus of control scale. This practice runs contrary to evidence that internality and externality represent two separate dimensions for both attributions and locus of control (Cooley & Savicki, 1987; Wong & Sproule, 1984). By forcing internality and externality onto the same scale, the Expanded ASQ artificially links characterological (internal-stable) to luck (external-unstable) attributions and task difficulty (external-stable) to behavioural (internal-unstable) attributions. Studies using separate factors ratings have obtained results somewhat inconsistent with those based on the
attribution dimensions of the Expanded ASQ (Peterson et al., 1981; Sweeney et al., 1986).

Respondents who may have had a demonstrable attribution style were not distinguished here from those who made diverse attributions. Eliminating respondents with large standard deviations on attributions has been found to improve correlations with depression (Peterson & Seligman, 1984). Neither was the level of teacher stress that represents an experience of non-contingency determined. Repeated failure alone is not expected to affect helplessness outcomes as do experiences of non-contingency between responses and outcomes (Kofta & Sedek, 1989).

Although burnout was expected to vary unequally across subgroups for stress (Kofta & Sedek, 1989; Pittman & Pittman, 1979) and attributions (Krause, 1986; Savicki & Cooley, 1983), a basic product-term analysis was used. Such an approach assumes monotonic and uniform changes across all levels of the moderator variable (Finney et al., 1984; House, 1981). The use of more sensitive approaches was precluded by the study's sample size.

Product-terms were interpreted in this study despite its non-experimental design. Cohen and Cohen (1983) have claimed that product-terms carry interaction information. Like weighted-variables, however, product-terms are combined variables when used after the fact. When not controlled by treatments, the constituent variables in product-terms may be intercorrelated or even causally linked (Pedhazur, 1982). In addition, they may be correlated with other variables not included in the design, or they may serve as proxy variables, as do attributions (Peterson & Seligman, 1984). If mathematically induced to function in
concert, such variables may together produce a significant effect on a predictor, such as was produced in this study by the universal-helplessness and enthusiasm product-terms. But when no psychological combination has been represented, each variable in a product-term technically affects the predictor independently. Because neither the assumption of independence nor the assumption of interaction is adequately met in non-experimental studies using product-terms, findings are extremely difficult to interpret, simple though they may be to represent (Pedhazur, 1982). According to Pedhazur, the best antidote against erroneous interpretations may be reference to a sound theoretical model.

Though based on an explanatory model, this study did not establish causality between any of its variables, nor any progressive patterns of stress, attributions for negative events, or coping associated with the burnout syndrome. Nevertheless, the study did provide interesting differences and relationships that invite further explanation.

Suggestions for Future Studies

To test the causal implications of the present findings longitudinal studies would be required. Preferably, such studies would sample both male and female respondents to control for possible defensiveness among males when reporting attributions for negative events (Hochreich, 1974). Controlling for defensiveness may be particularly important when using a measure as seemingly transparent as the Expanded ASQ (Bagby et al., 1990). Future studies should also include depersonalization in
their assessment of burnout (Greenglass & Burke, 1988; Ogus et al., 1990).

Future research involving stress and attribution style should attempt to avoid the conceptual confounding between constructs that may have occurred here. Such confounding would occur when stress was assessed by a self-report questionnaire, if reporting high stress implies an external attribution.

Should the Expanded ASQ be used in future work-related studies, averaging the stability/globality scores should be considered instead of using only the locus and stability score in composite attribution variables. The globality dimension was omitted here because of the length of the Expanded ASQ. It was assumed that generalizing causes would be less important in the context of a work-specific construct than in the context of depression. Results linking burnout to universal helplessness tend to confirm that burnout generalizes less than does depression. Nevertheless, the validity of the stability dimension continues to be a concern. Peterson and Villanova (1988) reported stronger validity for the globality dimension than for the stability dimension. The inclusion of the globality dimension might strengthen the validity of future findings.

In future work-related studies using the Expanded ASQ, utilizing a more domain-specific version of the scale should be considered. A post-hoc factor analysis of the locus and stability dimensions revealed no domain-specificity for the Expanded ASQ. However, informal feedback indicated that the Expanded ASQ was perceived by some respondents to be excessively personal in a work-related context. The attribution style
questionnaire contained more missing data than did any of the
other scales administered. A scale having greater face validity
would likely have produced substantially improved response rates.

In future studies, consideration should also be given to
using an attribution measure that separates the
internal/external, stable/unstable attribution dimensions onto
separate scales, as do factor measures. In addition, future
studies using Latack's (1986) coping measure should explore
further the clusters reported by Latack (1986) confirmed by
Leiter (1991). Latack's loadings were not consistently confirmed
in this study.

**Practical Implications**

Based on comparisons with other populations (Long et al, 1986), the post-secondary male instructors studied here might be
considered a stressed group. However, their burnout scores were
similar to those of other teachers (Nagy & Davis, 1985) and other
human service populations (Maslach & Jackson, 1981). Because
role overload and task stress were the organizational factors
that contributed most to emotional exhaustion and low personal
accomplishment for this population, workload reductions could be
considered among possible burnout remedies for such a group.

Universal helplessness is expected to be less damaging to
self-esteem than is personal helplessness. Nevertheless, as a
contributor to burnout, universal helplessness would be expected
to affect workers and their environments negatively. Preliminary
studies linking learned-helplessness and work environments have
suggested that organizationally-induced helplessness may be
particularly damaging in contexts where personal control is
assumed. Within a context of control over choice of problem and procedural control (i.e., control over agendas and procedures), the lack of outcome control (i.e., control over the situation) may have especially debilitating effects (Lacey, 1979; Peterson & Seligman, 1983). Apparent control over choice of problem and procedural control are likely to characterize the work of post-secondary instructors and perhaps of other helping professionals as well.

Should future studies show that behavioural (internal-unstable) attributions play a role in the etiology of burnout, such a finding would call into question McIntyre's (1984) suggested remedy for burnout. McIntyre suggested therapeutically encouraging internal attributions among burned-out teachers. Wong and Sproule (1984) have suggested, on the other hand, that we abandon our control-orientation and learn greater balance between internal and external attributions.

Like Wong and Sproule (1984), presenters of burnout workshops have advocated balanced attributions (Pines et al., 1981). Maslach (1982b) attributed the remedial power of burnout workshops to their ability to foster a sense of diffused or shared responsibility, by shifting the focus of the problem from highly personal to more situational causes. Within the population studied, an organizational crisis may have encouraged such shared responsibility among internal attributors.

Instead of relying on either workshops or crises to modify attributions, Savicki and Cooley (1982) suggested that professional training should foster attributional balance in the assessment of successes and failures. Organizations could
similarly encourage attributional balance by paying attention to expectations of accountability in performance appraisal systems (Savicki & Cooley, 1983). Individuals with risk-related attributional styles might be encouraged to locate the cause of frustrations more functionally as they process evaluative feedback.

If future studies warrant, cognitive retraining might also be contemplated for those deemed at greatest risk. Evidence suggests that attribution style responds to cognitive intervention in the treatment of depression. One study (Rush, Beck, Kovacs, & Hollon, 1977) found that modifying a depressive individual's cognitive style was more effective in alleviating depressive symptoms than was antidepressive medication. Another study (Shaw, 1977) found that cognitive modification was more effective in reducing depressive symptomatology than was either behaviour therapy, no treatment, or an attention-placebo therapy.

The belief that attributions reflecting shared responsibility foster greater emotional health and co-operation (Wong & Sproule, 1984) may be consistent with Freudenberger's (1980) view that intimacy and self-awareness remediate burnout. Nevertheless, until clinically significant findings are reported in the context of longitudinal studies, personal interventions for burnout should not be initiated. Freudenberger (1980) believed that all our values and social systems would ultimately be challenged in our attempt to understand, prevent, and remediate burnout. For the moment, however, the less-intrusive organizational interventions remain those most clearly indicated by the literature.
References


Appendices

Appendix A: Informed consent attachments, reminders and institute endorsement.

Cover Letter - first questionnaire distribution

JOB STRESS AND COPING AT ...

May, 1988

Purpose of this study:

This study is part of a Masters' thesis investigating job stress and coping at.... Its purpose is to explore ways of reducing instructor stress in the ... environment.

The questions attached assess both the ways individuals deal with stressful events and the way the environment affects levels of stress and individual reactions to it.

Procedure:

As a participant, you are asked to complete this paper and pencil questionnaire. It will take you approximately 30 minutes.

Confidentiality:

Please submit your questionnaire anonymously. All raw data will be kept confidential and will be destroyed when it has been analyzed. Results will be reported in group averages.

Consent:

By returning your completed questionnaire you will have consented to participate in the investigation. You may refuse to participate or to answer any specific items or questions in the questionnaire.

Results:

Analyzed collectively, the results will be available to individuals through their union and management representatives. If you wish to receive a summary of the results, please return the attached memo separately.

Returns:

Please return your completed questionnaire by May 16 to ... either in person or through the internal mail.

Questions:

If you have any questions, please contact the investigators:
First Reminder

Questionnaire Reminder

Have you completed your "Stress and Coping" Questionnaire yet?

Your response is important.

If you've already returned your questionnaire, thank you; please disregard this notice. If not, remember, your response is important. To report accurately on stress and its impact on instructor morale at ..., we need a representative response.

Do you need a fresh copy?

If you need a fresh copy, please call ..., and I'll be happy to send one to you. Or you can pick one up yourself in ....

Your decision to participate.

Your participation in this survey is voluntary. If you do participate, you may leave blank any specific questions you do not want to answer.

Confidentiality.

Your questionnaire is anonymous. It will be handled confidentially until the data is analyzed; then it will be destroyed. Only group averages will appear in the final report.

Returning the questionnaire.

Please return your completed questionnaire to ... either in person or through the internal mail.

Questions?

If you need anything clarified, please contact

Eileen Stephens ...

Dr. Bonita Long Counselling Psychology, UBC (228-4756)
Second Reminder

"Stress and Coping" Questionnaire
Reminder #2

Did your questionnaire get lost in the press of recent events? Your response is needed.

To answer the research questions underlying the study, I still need 15 more substantially completed returns.

If you're among those who have responded already, thank you. I hope to have some interesting findings to report to you.

If not, please take some time now to complete the questionnaire.

Do you need a fresh copy?

If you need a fresh copy, please leave a message with ..., and I'll be happy to send one to you. Or, if you prefer, you can pick one up yourself in ....

Confidentiality.

Your questionnaire is anonymous. It will be handled confidentially until the data is analyzed; then it will be destroyed. Only group averages will appear in the final report.

Participation.

Your participation is voluntary. As a participant, you may refuse to answer any specific questions in the questionnaire.

Returning the questionnaire.

Please return your completed questionnaire by to ..., either in person or through the internal mail.

Questions?

If you need anything clarified, please call me at ....
Stress Survey Endorsement

Earlier this month you were selected as a member of the sample group for a study on stress and coping among instructors at ....

Having reviewed the study's questionnaire and the research proposal guiding its use, we want to encourage you to take the time, if you haven't already done so, to participate in this study.

The events of the past month have understandably diminished response rates. However, we want to remind you that the results, if representative, will be of value to the ... community.

The study uses questions developed by North American researchers. The questions included are being used to test some specific hypotheses concerning the ways you and your environment interact to affect your wellbeing at ....

If you have already responded, thank you for your cooperation. There is no need to send in a second response. If not, a questionnaire is enclosed here for your convenience.
Cover Letter - second questionnaire distribution

JOB STRESS AND COPING AT ...

May, 1988

Purpose of this study:

This study is part of a Masters' thesis investigating job stress and coping at .... Its purpose is to explore ways of reducing instructor stress in the ... environment.

The questions attached assess both the ways individuals deal with stressful events and the way the environment affects levels of stress and individual reactions to it.

Procedure:

As a participant, you are asked to complete this paper and pencil questionnaire. It will take you approximately 30 minutes.

Confidentiality:

Please submit your questionnaire anonymously. All raw data will be kept confidential and will be destroyed when it has been analyzed. Results will be reported in group averages.

Participation:

Your participation is voluntary. As a participant, you may refuse to answer any specific items or questions in the questionnaire.

Results:

Analyzed collectively, the results will be available to individuals through their union and management representatives. If you wish to receive a summary of the results, please return the attached memo separately.

Returns:

Please return your completed questionnaire by to ..., either in person or through the internal mail.

Questions:

If you need anything clarified, please call me at....
Appendix B: Advertising.

Article - May 2, 1988

INSTRUCTOR LOOKS AT ... STRESS LEVELS

With stress at its present level, a timely study is being conducted on how ... faculty copes with stress at the .... The study forms part of a M.A. thesis being conducted by ... instructor Eileen Stephens who says that while numerous studies have examined stress in an educational setting, few have dealt with it in the context of higher education. Dr. Bonita Long of the UBC Counselling Psychology Department is Stephens' co-researcher on the project.

"We will investigate not only the ways individuals in the ... environment deal with stressful events, but also how the environment affects levels of stress and individual reactions to it," says Stephens. She is currently distributing a questionnaire to a sample of 250 ... faculty members.

Summaries of the findings will be mailed to questionnaire respondents and will also be available to faculty through their management or union representatives. If you receive one on Eileen's questionnaires, please complete it (without giving your name) and return it to .... The questionnaire takes approximately 45 minutes to complete.

For further information call Eileen Stephens ... or Dr. Bonnie Long (228-4657).

Article - May 5, 1988

HOW ARE YOU COPING?

Management and both unions ... have given their blessing to a study on coping with work-related stress at .... The study will draw on a body or research which attempts to isolate the most useful ways of dealing with work pressure and its impact on the individual.

Most research on teacher stress has been done in the school system where burnout is a growing concern. Little attention has been paid to institutions of higher education. A ... -based study is timely and should be of interest to us all.

If you receive a questionnaire, please take some time to complete it. ... will be collecting confidential returns.

Article - May 24, 1988

STRESS

... instructor Eileen Stephens still needs 15 more substantially completed questionnaires for her survey on stress and coping. If you receive a questionnaire and have not yet filled it out, please take a few minutes to do so. Your help is much appreciated by Eileen, who will be using the information for her M.A. thesis on stress among ... instructors.
Appendix C: Instruments.

Attributions of Treatment Outcomes

Factor 1: External Source of Change

Some recipients do not want to change and there is nothing I can do to modify this.

Some clients cannot be reached no matter what you do.

The source of improvement is a person under my care comes completely from within them, when they are ready to change, they will.

I feel like helping some clients is mostly a matter of luck getting them just at the right time.

I feel I have little power to change most of my clients.

If I am not getting results with a recipient I usually know its due to factors in the recipient themselves or in their lives over which I have little control.

Some of my clients seem to get better because of placebo effects rather than any specific thing I do.

Some recipients know where they want to go and I don't have much impact upon these decisions.

External factors (Family, Friend, Job) usually explain most of the improvements I see in my clients.

Factor 2: Personal Impact

When people under my care show improvement I feel a sense of personal accomplishment.

I have a direct and powerful impact upon the people under my care.

Frequently, when a client gets better, it's because of what I have done with them.

Almost anything I do with clients can have an impact upon their mental health.

If I am not getting results with a recipient I try to work harder with this person.
Factor 3: Personal Responsibility

I feel it is my personal responsibility to see that recipients show some improvements.

I can't help but feel that I have failed when one of my recipients gets worse.

If one of the people I work with has failed to change, it's probably because I have not worked hard enough or carefully enough with them.

At times I feel helpless to do anything to help the people under my care. (Reversed scoring)

Factor 4: Do No Harm

If I behave carelessly or say the wrong thing with clients it can cause them to get worse.

Very little of what I say or do with recipients could cause them to get worse. (Reversed scoring)

I have to be very careful about what I say and do with recipients because I can cause more pain and suffering.
STRESS AND COPING QUESTIONNAIRE

This questionnaire consists of five sections: job stress, interpretation of life events, coping, emotional response, and demographic data.

Job Stress

Please indicate how much you agree or disagree with the following statements by circling the appropriate number.

1. I can predict what will be expected of me in my work tomorrow.

2. I am unclear on what the scope and responsibilities of my job are.

3. I am uncertain what the criteria for evaluating my performance actually are.

4. I receive enough information to carry out my job effectively.

5. When asked, I am able to tell someone exactly what the demands of my job are.

6. I feel that my job interferes with my family life.

7. I feel constant pressure from others to improve the quality of my work.

8. I find that I have extra work beyond what should normally be expected of me.
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<td>9. The criteria of performance for my job are too high.</td>
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<td>10. I am given too much responsibility without adequate authority to carry it out.</td>
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<td>11. I receive conflicting demands from two or more people or groups in the institute setting.</td>
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<td>12. I have to buck a rule or policy in order to carry out an assignment.</td>
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<td>13. I have a hard time satisfying the conflicting demands of students, administrators and instructors.</td>
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<td>2</td>
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<td>14. I am given work-related duties without adequate resources and materials to carry them out.</td>
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<td>15. There is a difference between the way my administrative head thinks things should be done and the way I think they should be done.</td>
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<td>16. My fellow faculty members and I regularly have time during work hours to discuss job-related issues.</td>
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<td>17. I have influence over what goes on in the institute.</td>
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<td>18. I'm informed of important things that are happening in the institute.</td>
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<td>19.</td>
<td>My administrative head asks my opinion on decisions that directly affect me.</td>
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<td>20.</td>
<td>I feel that it is useless to make suggestions about my work because decisions are made regardless of my attempts to influence them.</td>
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<td>2</td>
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<td>21.</td>
<td>All in all, I would say that I am extremely satisfied with my job.</td>
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<td>2</td>
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<td>22.</td>
<td>My job is extremely important in comparison with other interests in my life.</td>
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<td>23.</td>
<td>Knowing what I know now, if I had to decide all over again whether to take this job, I would definitely do so.</td>
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<td>24.</td>
<td>In general, my job measures up extremely well with the sort of job I wanted before I took it.</td>
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<td>25.</td>
<td>If a good friend told me that (s)he was interested in taking a job here, I would have serious reservations about recommending it.</td>
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<td>26.</td>
<td>Trying to complete marks and paper work on time causes me a lot of stress.</td>
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<td>27.</td>
<td>I find that dealing with student discipline problems puts a lot of stress on me.</td>
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28. Trying to provide a good education in an atmosphere of decreasing financial support is very stressful.

29. There is a lot of stress just keeping up with changing professional standards.

30. Trying to keep my work from being too routine and boring puts a lot of stress on me.

31. Having to participate in institute activities outside of the normal working hours is very stressful to me.

32. I find that trying to be attentive to the problems and needs of fellow faculty is very stressful.

33. When I really need to talk to my administrative head, (s)he willing to listen.

34. My administrative head pays attention to what I am saying.

35. My administrative head stands up to outsiders for the people (s)he supervises.

36. When I have conflicts with students my administrative head gives me the kind of support I need.
Interpretation of Life Events

Please try to imagine yourself in the situations that follow. If such a situation happened to you, what would you feel would have caused it? While both work-related and general life events may have many causes, we want you to pick only one—THE MAJOR CAUSE IF THIS EVENT HAPPENED TO YOU.

Please write the cause in the blank provided after each event. Next we want you to answer two questions about the cause you provided. First, is the cause of this event something about you or something about other people or circumstances? Second, is the cause of this event something that will persist across time or something that will never again be present?

To summarize, we want you to:

1. Read each situation and vividly imagine it happening to you.
2. Decide what you feel would be the one major cause of the situation if it happened to you.
3. Write the cause in the blank provided.
4. Answer two questions about the cause.

1. You have been looking for new employment unsuccessfully for some time.
   A. Write down the one major cause:

   B. Is this cause due to something about you or something about other people or circumstances? (circle one number)

   totally due to others 1 2 3 4 5 6 7 totally due to me

   C. In the future, will this cause again be present? (circle one number)

   never present 1 2 3 4 5 6 7 always present
2. A colleague comes to you with a problem, and you don't help.
   A. Write down the one major cause:

   B. Is this cause due to something about you or something about other people or circumstances? (circle one number)

   totally due to others 1 2 3 4 5 6 7 totally due to me

   C. In the future, will this cause again be present? (circle one number)

   never present 1 2 3 4 5 6 7 always present

3. You give a lecture, and the audience reacts negatively.
   A. Write down the one major cause:

   B. Is this cause due to something about you or something about other people or circumstances? (circle one number)

   totally due to others 1 2 3 4 5 6 7 totally due to me

   C. In the future, will this cause again be present? (circle one number)

   never present 1 2 3 4 5 6 7 always present
4. You meet a colleague who acts hostilely to you.
   A. Write down the one major cause:

   B. Is this cause due to something about you or something about other people or circumstances? (circle one number)

   | totally due to others | totally due to me |
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

   C. In the future, will this cause again be present? (circle one number)

   | never | present | always |
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

5. You can't get all the work done that others expect of you.
   A. Write down the one major cause:

   B. Is this cause due to something about you or something about other people or circumstances? (circle one number)

   | totally due to others | totally due to me |
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

   C. In the future, will this cause again be present? (circle one number)

   | never | present | always |
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
6. You go out socially and the encounter goes badly.

A. Write down the one major cause:

B. Is this cause due to something about you or something about other people or circumstances? (circle one number)

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C. In the future, will this cause again be present? (circle one number)

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7. A relationship that is important to you ends.

A. Write down the one major cause:

B. Is this cause due to something about you or something about other people or circumstances? (circle one number)

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C. In the future, will this cause again be present? (circle one number)

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8. You experience a major personal injury.
   A. Write down the one major cause:

   B. Is the cause of this due to something about you or something about other people or circumstances? (circle one number)
   
   totally due to others 1 2 3 4 5 6 7 totally due to me

   C. In the future, will this cause again be present? (circle one number)
   
   never 1 2 3 4 5 6 7 always present

9. You are found to have violated a guideline or policy.
   A. Write down the one major cause:

   B. Is this cause due to something about you or something about other people or circumstances? (circle one number)
   
   totally due to others 1 2 3 4 5 6 7 totally due to me

   C. In the future, will this cause again be present? (circle one number)
   
   never 1 2 3 4 5 6 7 always present
10. You and your family have a serious argument.

A. Write down the one major cause:

B. Is this cause due to something about you or something about other people or circumstances? (circle one number)

totally due to others 1 2 3 4 5 6 7 totally due to me

C. In the future, will this cause again be present? (circle one number)

never present 1 2 3 4 5 6 7 always present

11. You lose your job.

A. Write down the one major cause:

B. Is this cause due to something about you or something about other people or circumstances? (circle one number)

totally due to others 1 2 3 4 5 6 7 totally due to me

C. In the future, will this cause again be present? (circle one number)

never present 1 2 3 4 5 6 7 always present
12. After your first term at work, you are on extended probation.

A. Write down the one major cause:

B. Is this cause due to something about you or something about other people or circumstances? (circle one number)

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13. A friend tells you that you are not to be trusted.

A. Write down the one major cause:

B. Is this cause due to something about you or something about other people or circumstances? (circle one number)

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C. In the future, will this cause again be present? (circle one number)

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<th>7</th>
</tr>
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<tr>
<td>always present</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
14. You have a lot of trouble understanding what your employer requires of you.
   A. Write down the one major cause:

   B. Is this cause due to something about you or something about other people or circumstances? (circle one number)

   totally due
to others 1 2 3 4 5 6 7
totally due
to me

   C. In the future, will this cause again be present? (circle one number)

   never present 1 2 3 4 5 6 7 always present

15. You cannot sleep soundly.
   A. Write down the one major cause:

   B. Is this cause due to something about you or something about other people or circumstances? (circle one number)

   totally due
to others 1 2 3 4 5 6 7
totally due
to me

   C. In the future, will this cause again be present? (circle one number)

   never present 1 2 3 4 5 6 7 always present
16. You experience sexual difficulties.
   A. Write down the one major cause:

   B. Is this cause due to something about you or something about other people or circumstances?
      totally due 1 2 3 4 5 6 7 totally due
      to others to me

   C. In the future, will this cause again be present? (circle one number)
      never 1 2 3 4 5 6 7 always
      present present

17. You confront a serious conflict in your values.
   A. Write down the one major cause:

   B. Is this cause due to something about you or something about other people or circumstances? (circle one number)
      totally due 1 2 3 4 5 6 7 totally due
      to others to me

   C. In the future, will this cause again be present? (circle one number)
      never 1 2 3 4 5 6 7 always
      present present
18. Your office-mate tells you (s)he is switching to a room down the hall.
   A. Write down one major cause:

   B. Is this cause due to something about you or something about other people or circumstances? (circle one number)

   totally due
to others 1 2 3 4 5 6 7
totally due
to me

   C. In the future, will this cause again be present? (circle one number)

   never
   present 1 2 3 4 5 6 7 
   always
   present

19. There are few recreational activities in which you are interested.
   A. Write down the one major cause:

   B. Is this cause due to something about you or something about other people or circumstances? (circle one number)

   totally due
to others 1 2 3 4 5 6 7
totally due
to me

   C. In the future, will this cause again be present? (circle one number)

   never
   present 1 2 3 4 5 6 7 
   always
   present
20. Your Christmas vacation plans are cancelled.
   A. Write down one major cause:

   B. Is this cause due to something about you or something about other people or circumstances? (circle one number)

         totally due to others 1 2 3 4 5 6 7
totally due to me

   C. In the future, will this cause again be present? (circle one number)

         never 1 2 3 4 5 6 7
         always
         present

21. You have trouble with your administrative head.
   A. Write down the one major cause:

   B. Is this cause due to something about you or something about other people or circumstances? (circle one number)

         totally due to others 1 2 3 4 5 6 7
totally due to me

   C. In the future, will this cause again be present? (circle one number)

         never 1 2 3 4 5 6 7
         always
         present
22. You experience financial difficulties.
   A. Write down the one major cause:

   B. Is this cause due to something about you or something about other people or circumstances? (circle one number)

   totally due
to others 1 2 3 4 5 6 7
totally due
to me

   C. In the future, will this cause again be present? (circle one number)

   never
   present 1 2 3 4 5 6 7
   always
   present

23. Your attempt to be friendly with a person of the opposite sex is a failure.
   A. Write down the one major cause:

   B. Is this cause due to something about you or something about other people or circumstances? (circle one number)

   totally due
to others 1 2 3 4 5 6 7
totally due
to me

   C. In the future, will this cause again be present? (circle one number)

   never
   present 1 2 3 4 5 6 7
   always
   present
24. You feel sick and tired all of the time.
   A. Write down one major cause.

   B. Is this cause due to something about you or something about other people or circumstances? (circle one number)
   
   totally due to others 1 2 3 4 5 6 7
   totally due to me

   C. In the future, will this cause again be present? (circle one number)
   
   never present 1 2 3 4 5 6 7
   always present

Coping

People in the human services professions typically report experiences of frustration in connection with their work. Think of a job-related task that has recently been frustrating to you. By frustrating, we mean that you've felt unable (or likely to be unable) to achieve an outcome that you want.

A. Identify the task: (describe briefly)

B. Identify the frustrating outcome you've encountered or expect:

C. Write down the one major cause:

D. Is this cause due to something about you or something about other people or circumstances? (circle one number)
   
   totally due to others 1 2 3 4 5 6 7
   totally due to me
E. In the future, will this cause again be present? (circle one number)

never always
present 1 2 3 4 5 6 7 present

Keeping in mind situations like the one you've just described, please respond to the following 28 items.

In situations of this kind, how frequently do you react in the following ways? (circle one number)

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Get together with my supervisor to discuss this.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Do my best to get out of the situation gracefully.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Request help from people who have the power to do something for me.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Throw myself into my work and work harder, longer hours.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Try to see this situation as an opportunity to learn and develop new skills.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Try to keep away from this type of situation.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Talk with people (other than my supervisor) who are involved.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neutral</td>
<td>Agree</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>----------</td>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>8</td>
<td>Put extra attention on planning and scheduling.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>Try to think of myself as a winner -- as someone who always comes through.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>Try not to get concerned about it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>Separate myself as much as possible from the people who created this situation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>Seek advice from people outside the situation who may not have power but who can help me think of ways to do what is expected of me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13</td>
<td>Tell myself that I can probably work things out to my advantage.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14</td>
<td>Devote more time and energy to doing my job.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15</td>
<td>Try to be very organized so that I can keep on top of things.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16</td>
<td>Accept this situation because there is nothing I can do to change it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17</td>
<td>Set my own priorities based on what I like to do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18</td>
<td>Try to get additional people involved in the situation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
19. Avoid being in this situation if I can.  & 1 & 2 & 3 & 4 & 5  
20. Think about the challenges I can find in this situation.  & 1 & 2 & 3 & 4 & 5  
21. Decide what I think should be done and explain this to the people who are affected.  & 1 & 2 & 3 & 4 & 5  
22. Give it my best effort to do what I think is expected of me.  & 1 & 2 & 3 & 4 & 5  
23. Delegate work to others.  & 1 & 2 & 3 & 4 & 5  
24. Tell myself that time takes care of situations like this.  & 1 & 2 & 3 & 4 & 5  
25. Try to work faster and more efficiently.  & 1 & 2 & 3 & 4 & 5  
26. Anticipate the negative consequences so that I'm prepared for the worst.  & 1 & 2 & 3 & 4 & 5  
27. Remind myself that work isn't everything.  & 1 & 2 & 3 & 4 & 5  
28. Work on changing policies which caused this situation.  & 1 & 2 & 3 & 4 & 5  

Emotional Response*

Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, write a "0" (zero) before the statement. If you have had this feeling, indicate how often you feel it by writing the number (from 1 to 6) that best describes how frequently you feel that way. An example is shown below.

Example:

<table>
<thead>
<tr>
<th>HOW OFTEN:</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>A few times</td>
<td>Once a month</td>
<td>A few times</td>
<td>Once a week</td>
<td>A few times</td>
<td>Every day</td>
<td></td>
</tr>
<tr>
<td>or less</td>
<td>less times</td>
<td>or less month</td>
<td>less times</td>
<td>or less month</td>
<td>less times</td>
<td>week</td>
<td></td>
</tr>
</tbody>
</table>

HOW OFTEN: 0-6 Statement

I feel depressed at work.

If you never feel depressed at work, you would write the number "0" under the heading "HOW OFTEN." If you rarely feel depressed at work (a few times a year or less), you would write the number "1." If your feelings of depression are fairly frequent (a few times a week, but not daily) you would write a "5."

HOW OFTEN: 0-6 Statement

1.____ I feel emotionally drained from my work.
2.____ I feel used up at the end of the workday.
3.____ I feel fatigued when I get up in the morning and have to face another day on the job.
4.____ I can easily understand how my students feel about things.
5.____ Working with people all day is really a strain for me.
6.____ I deal very effectively with the problems of my students.
<table>
<thead>
<tr>
<th>HOW OFTEN:</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>A few times</td>
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<td>A few times</td>
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<tr>
<td>Once a month</td>
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<tr>
<td>Once a month</td>
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<td>Everyday</td>
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</tbody>
</table>

HOW OFTEN
0-6 Statement

7. I feel burned out from my work.
8. I feel I'm positively influencing other people's lives through my work.
9. I feel very energetic.
10. I feel frustrated by my job.
11. I feel I'm working too hard on my job.
12. Working with people directly puts too much stress on me.
13. I can easily create a relaxed atmosphere with my students.
14. I feel exhilarated after working closely with my students.
15. I have accomplished many worthwhile things in this job.
16. I feel like I'm at the end of my rope.
17. In my work, I deal with emotional problems very calmly.

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Demographic Data
The following information will be used to describe the group of subjects:

Your sex:
_____ male _____ female

Your age:
_____ years

Your marital status:
_____ single _____ married

Years of post-secondary education:
_____ years

Years of non-teaching employment:
_____ years

Years of teaching at ...:
_____ years
Wording Changes on **Extended Attribution Style Questionnaire**

Changes are indicated in parentheses:

2. A friend (colleague) comes to you with a problem, and you don't try to help.

4. You meet a friend (colleague) who acts hostilely to you.

6. You go out on a date, and it goes badly. (You go out socially and the encounter goes badly.

7. Your steady romantic relationship ends. (A relationship that is important to you ends.

8. You are found guilty of a minor violation of the law. (You are found to have violated a guideline or policy.

11. You are fired from your job. (You lose your job.)

12. After your first term at school (work), you are on academic (extended) probation.

13. Your best friend (A friend) tells you that you are not to be trusted.

14. You have a lot of trouble understanding what your new employer (your employer) requires of you.

18. Your roommate (office-mate) tells you he/she is switching to a room down the hall.

21. You have trouble with one of your instructors (with your administrative head).
Appendix D: Ancilliary results.

Responses to the introduction to Latack's coping measure.

Respondents identified such frustrations as heavy marking loads, lack of curriculum development, outdated equipment and facilities, unmotivated students, and poor marketing of their programs. A lack of funding, a lack of time, and insufficient management support were frequently-cited causes.
<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<th>6</th>
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<td>.43**</td>
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<td>.59**</td>
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<td>.27*</td>
<td>.27*</td>
<td>.27*</td>
<td>.27*</td>
<td>.17*</td>
</tr>
</tbody>
</table>

**Abbreviations:**
1 = role ambiguity
2 = role overload
3 = role conflict
4 = nonparticipation
5 = low personal accomplishment
6 = emotional exhaustion
7 = supervisory support
8 = job (dis)satisfaction
9 = task stress

*<p<.05, **<p<.01 Two-tailed <p<.05 = .19, <p<.001 = .32,
Table 2

Correlations for Stress, Locus, Stability, and Criterion Variables (N = 108)

<table>
<thead>
<tr>
<th></th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<td></td>
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<td></td>
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</tr>
</tbody>
</table>

*p<.05  **p<.001  Two-tailed p<.05 = .19, p<.001 = .32.

Abbreviations:
1 = teacher stress
2 = locus (internal/external) attributions
3 = stability (stable/unstable) attributions
4 = single-item locus attributions
5 = single-item stability attributions
6 = emotional exhaustion
7 = low personal accomplishment
8 = job (dis)satisfaction
Table 3

Correlations for Weighted Attributions and Criterion Variables (N = 108)

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
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<td>1.00</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
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<td>3</td>
<td>-.32**</td>
<td>-.90**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>-.90**</td>
<td>-.34**</td>
<td>.35**</td>
<td>1.00</td>
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<td>-.32**</td>
<td>.46**</td>
<td>.17*</td>
<td>1.00</td>
</tr>
</tbody>
</table>

*p<.05  **p<.001  Two-tailed p<.05 = .19, p<.001 = .32.

Abbreviations:

1 = personal helplessness product-term (internal-stable attributions weighted by teacher stress)
2 = universal helplessness product-term (external-stable attributions weighted by teacher stress)
3 = enthusiasm product-term (internal-unstable attributions weighted by low teacher stress)
4 = morale product-term (external-unstable attributions weighted by low teacher stress)
5 = emotional exhaustion
6 = low personal accomplishment
7 = job (dis)satisfaction

Note: For the purpose of this correlation matrix, product-terms were constructed as weighted variables with the direction of teacher stress determined, as indicated in the above definitions.
Exploratory analyses for personal accomplishment

The main regression was significant $F(7,100) = 3.22$ $p < .004$. The predictor variables accounted for 18% (adjusted $R$ square = .13) of the variance in low personal accomplishment. Table 4 summarizes the findings. The variables were entered in an hierarchical manner as follows: level 1, teacher stress; level 2, internal-stable attributions; level 3, external-stable attributions; level 4, the personal-helplessness product-term (stress by internal-stable attribution) and the universal-helplessness product-term (stress by external-stable attributions); level 5, the escape-cognitive and the escape-active coping ratios. The product-terms and coping ratios were entered simultaneously within levels 4 and 5, respectively.

Teacher stress was entered first. It accounted for 5% of the variance and was positively associated, as expected, with low personal accomplishment. Internal-stable attributions accounted for an additional 1% of the variance in low personal accomplishment; this contribution was not significant. External-unstable attributions, entered next, made no additional contribution.

The personal-helplessness and the universal-helplessness product-terms, entered simultaneously, added an additional 1% of variance to low personal accomplishment. Although these product-terms failed to make significant contributions, the multiplicative model was nevertheless retained (Finney et al., 1984).
Table 4

Multiple Regression of Low Personal Accomplishment on "Helplessness-Orientatation" Predictors (N = 108)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cumulative $R^2$</th>
<th>$R^2$ Increase</th>
<th>$t$</th>
<th>df</th>
<th>$p$</th>
<th>$R$</th>
</tr>
</thead>
<tbody>
<tr>
<td>+Teacher stress</td>
<td>.05</td>
<td></td>
<td>2.35</td>
<td>1,106</td>
<td>.021</td>
<td>1.31**</td>
</tr>
<tr>
<td>+Internal-stable attributions</td>
<td>.06</td>
<td>.01</td>
<td>-1.04</td>
<td>1,105</td>
<td>.319</td>
<td>.48</td>
</tr>
<tr>
<td>+External-stable attributions</td>
<td>.06</td>
<td>.00</td>
<td>.33</td>
<td>1,104</td>
<td>.743</td>
<td>-.29</td>
</tr>
<tr>
<td>+Stress x internal-stable attributions</td>
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<td></td>
<td></td>
<td>1,102</td>
<td>-.981</td>
<td>-.18</td>
</tr>
<tr>
<td>Stress x external-stable attributions</td>
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<td>.01</td>
<td>1.03</td>
<td>1,102</td>
<td>.305</td>
<td>.94</td>
</tr>
<tr>
<td>+Escape-cognitive coping ratio</td>
<td></td>
<td></td>
<td>2.85</td>
<td>1,100</td>
<td>.005</td>
<td>1.54**</td>
</tr>
<tr>
<td>Escape-active coping ratio</td>
<td>$b$</td>
<td>.11</td>
<td>2.47</td>
<td>1,100</td>
<td>.015</td>
<td>1.31**</td>
</tr>
</tbody>
</table>

$F(7,100) = 3.22$ $p<.004$.

+ Each new level in the hierarchical analysis is indicated by a plus sign.

a The $R$ values are the unstandardized coefficients from the final simultaneous analysis. The constant value in the equation is 10.77.

b Adjusted cumulative $R^2$ increase = .13

*p<.10. **p<.05. ***p<.01.
Escape-cognitive and escape-active coping, entered simultaneously, accounted for an additional 11% of variance, with both coping ratios being positively associated, as expected, with low personal accomplishment. These contributions were significant. As expected, escape-cognitive coping (unstandardized regression coefficient = 1.54) contributed more than did escape-active coping (unstandardized regression coefficient = 1.33).

The corollary regression was also significant, $F(7,100) = 3.32, p < .003$. The predictor variables accounted for 19% (adjusted $R$ square = .13) of the variance in low personal accomplishment. Table 5 summarizes the findings. The variables were entered in an hierarchical manner as follows: level 1, teacher stress; level 2, external-unstable attributions; level 3, internal-unstable attributions; level 4, the morale product-term (stress by external-unstable attributions) and the enthusiasm product-term (stress by internal-unstable attributions); level 5, the control-cognitive coping ratio and the control-active coping ratio. The product-terms and coping ratios were entered simultaneously within levels 4 and 5, respectively.

Teacher stress was entered first. Again it accounted for 5% of the variance and was positively associated, as expected, with low personal accomplishment. External-unstable attributions accounted for 1% of additional variance; this contribution was not significant. Internal-unstable attributions, entered next, made no unique contribution.

The morale and enthusiasm product-terms, entered simultaneously, added an additional 2% of variance; neither
Table 5

Multiple Regression of Low Personal Accomplishment on "Helplessness-Risk" Predictors (N = 108)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cumulative $R^2$</th>
<th>$R$ Increase</th>
<th>t</th>
<th>df</th>
<th>p</th>
<th>$R$</th>
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</thead>
<tbody>
<tr>
<td>+Teacher stress</td>
<td>.05</td>
<td>2.35</td>
<td>1.106</td>
<td>.021</td>
<td>1.07**</td>
<td></td>
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<tr>
<td>+External-unstable attributions</td>
<td>.06</td>
<td>.01</td>
<td>-1.04</td>
<td>1.105</td>
<td>.300</td>
<td>-.55</td>
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<td>+Internal-unstable attributions</td>
<td>.06</td>
<td>.00</td>
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<td>.587</td>
<td>-.06</td>
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<td>&lt;1</td>
<td>1.102</td>
<td>.671</td>
<td>.42</td>
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<td>Low stress x internal-unstable attributions</td>
<td>.08</td>
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<td>1.102</td>
<td>.196</td>
<td>-1.17*</td>
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<tr>
<td>+Control-cognitive coping ratio</td>
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<td>1.100</td>
<td>.009</td>
<td>-1.44**</td>
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<td></td>
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<tr>
<td>Control-active coping ratio</td>
<td>.19</td>
<td>.11</td>
<td>-1.93</td>
<td>1.100</td>
<td>.057</td>
<td>-1.05*</td>
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</tbody>
</table>

$F(7,100) = 3.32$ p<.003.

+ Each new level in the hierarchical analysis is indicated by a plus sign.

a The $R$ values are the unstandardized coefficients from the final simultaneous analysis. The constant value in the equation is 10.80.

b Adjusted cumulative $R$ increase = .13

*p<.10. **p<.05. ***p<.01.
contribution was significant. Nevertheless, the multiplicative model was retained (Finney et al., 1984). When coping was added, the contribution of the enthusiasm product-term reached the \( p < .067 \) level of significance.

Control-cognitive and control-active coping, entered simultaneously, adding an additional 11% of variance to low personal accomplishment. Only the contribution of control-cognitive coping was significant. Control-cognitive coping was negatively associated, as expected, with low personal accomplishment.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Cumulative $R^2$</th>
<th>Increase $R$</th>
<th>$t$</th>
<th>df</th>
<th>$p$</th>
<th>$a$</th>
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</thead>
<tbody>
<tr>
<td>+Teacher stress</td>
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<td>7.72</td>
<td>1,106</td>
<td>.001</td>
<td>2.22***</td>
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</tr>
<tr>
<td>+Internal-stable attributions</td>
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<td>.00</td>
<td>&lt;1</td>
<td>1,105</td>
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<td>.37</td>
<td>.01</td>
<td>1.13</td>
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<td>.263</td>
<td>.35</td>
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<tr>
<td>+Stress x internal-stable attributions</td>
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<td>1,102</td>
<td>.675</td>
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<tr>
<td>Stress x external-stable attributions</td>
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<td>.205</td>
<td>-.37</td>
</tr>
<tr>
<td>+Escape-cognitive coping ratio</td>
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<td>.25</td>
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<tr>
<td>Escape-active coping ratio</td>
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<td>1,100</td>
<td>.230</td>
<td>.37</td>
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</tbody>
</table>

$F(7,100) = 9.21$ $p<.001$.

Each new level in the hierarchical analysis is indicated by a plus sign.

The $B$ values are the unstandardized coefficients from the final simultaneous analysis. The constant value in the equation is 13.20.

Adjusted cumulative $R^2$ increase = .35

*p<.10. **p<.05. ***p<.01.
Table 7

Multiple Regression of Job (Dis)satisfaction on "Helplessness-Risk" Predictors (N = 108)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cumulative $R^2$</th>
<th>Increase $R^2$</th>
<th>t</th>
<th>df</th>
<th>p</th>
<th>$a$ $R$</th>
</tr>
</thead>
<tbody>
<tr>
<td>+Teacher stress</td>
<td>.36</td>
<td>7.72</td>
<td>1,106</td>
<td></td>
<td>.001</td>
<td>2.24***</td>
</tr>
<tr>
<td>+External-unstable attributions</td>
<td>.36</td>
<td>.00</td>
<td>&lt;1</td>
<td>1,105</td>
<td>.941</td>
<td>.09</td>
</tr>
<tr>
<td>+Internal-unstable attributions</td>
<td>.38</td>
<td>.02</td>
<td>-1.04</td>
<td>1,104</td>
<td>.166</td>
<td>-.42</td>
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<tr>
<td>+Low stress x external-unstable attributions</td>
<td></td>
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<td>1,102</td>
<td>.882</td>
<td>.11</td>
</tr>
<tr>
<td>Low stress x internal-unstable attributions</td>
<td>.38</td>
<td>.01</td>
<td>-1.33</td>
<td>1,102</td>
<td>.186</td>
<td>.37</td>
</tr>
<tr>
<td>+Control-cognitive coping ratio</td>
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<td></td>
<td></td>
<td>1,100</td>
<td>.734</td>
<td>-.11</td>
</tr>
<tr>
<td>Control-active coping ratio</td>
<td>.40</td>
<td>.02</td>
<td>-1.54</td>
<td>1,100</td>
<td>.127</td>
<td>-.48</td>
</tr>
</tbody>
</table>

$F(7,100) = 9.53$ $p<.001$.

* Each new level in the hierarchical analysis is indicated by a plus sign.

a The $R$ values are the unstandardized coefficients from the final simultaneous analysis. The constant value in the equation is 13.19.

b Adjusted cumulative $R^2$ increase = .36

*p<.10.  **p<.05.  ***p<.01.
Factor analysis of Latack's coping measure (1986).

Using .35 as a minimum loading criterion, a two-factor rotated oblimin solution yielded results for the present sample differing from Latack's clusters. On the first factor, recognizable as "other-focused coping", positive items reflected "engagement" strategies and negative items "avoidance" strategies. On the second factor, recognizable as "self-focused coping", positive items reflected positive work-habits.

A three-factor rotated oblimin solution loaded the positive and negative items from "other-focused coping" onto separate "engagement" and "avoidance" factors; a four-factor rotated oblimin solution loaded items from "self-focused coping" onto separate factors, recognizable as "positive work-habits" and "cognitive reframing."

Loadings on "engagement coping" factor
1. Get together with my supervisor to discuss this (.81).
2. Request help from people who have the power to do something for me (.69).
3. Talk with people (other than my supervisor) who are involved (.49).
4. Seek advice from people outside the situation who may not have power but who can help me think of ways to do what is expected of me (.35).
5. Try to get additional people involved in the situation (.73).
6. Decide what I think should be done and explain this to the people who are affected (.54).
7. Work on changing policies which caused this situation (.51).
Loadings on "positive work habits" coping factor

1. Throw myself into my work and work harder, longer hours (.74).
2. Try to see this situation as an opportunity to learn and develop new skills (.42).
3. Put extra attention on planning and scheduling (.43).
4. Tell myself that I can probably work things out to my advantage (.43).
5. Devote more time and energy to doing my job (.75).
6. Try to be very organized so that I can keep on top of things (.43).
7. Give my best effort to do what is expected of me (.50).
8. Try to work faster and more efficiently (.70).

Loadings on "avoidance coping" factor

1. Try to keep away from this type of situation (.80).
2. Separate myself as much as possible from the people who caused this situation (.45).
3. Avoid being in this situation if I can (.81).

Loadings on "reframing" coping factor

1. Try to think of myself as a winner, as someone who always comes through (.59).
2. Think about the challenges I can find in this situation (.44).
3. Tell myself that time takes care of situations like this (.35).
4. Remind myself that work isn't everything (.46)
Correlations between coping factors and criterion variables.

The first factor, "(dis)engagement coping" correlated significantly with emotional exhaustion, \( r = .24 \), and with low personal accomplishment, \( r = .31 \). It also correlated significantly with characterological attributions, \( r = .21 \), and with luck attributions, \( r = - .23 \).

"Cognitive reframing" correlated significantly with emotional exhaustion, \( r = -.19 \), and with low personal accomplishment, \( r = -.35 \), and "positive work habits" correlated significantly with low personal accomplishment, \( r = -.24 \). Associations between these derived coping factors and the burnout subscales were in the directions expected. They tended to be stronger for this sample than were those resulting from Latack's 37 clusters.
Table 8
Correlations for Attributions, Coping Factors, and Criterion Variables (N = 108)

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
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<td>0.00</td>
<td>0.06</td>
<td>0.04</td>
<td>.31**</td>
<td>-.17*</td>
<td>1.00</td>
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<tr>
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<td>-.19*</td>
<td>.03</td>
<td>-.24*</td>
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<td>-.19*</td>
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<td>-.31**</td>
<td>.09</td>
<td>-.24*</td>
<td>-.35**</td>
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<td>.09</td>
<td>-.05</td>
<td>-.05</td>
<td>.46**</td>
<td>0.17*</td>
</tr>
</tbody>
</table>

*p<.05  **p<.001  Two-tailed p<.05 = .19, p<.001 = .32.

**Abbreviations:**
1 = internal-stable (characterological) attributions
2 = external-stable (task-difficulty) attributions
3 = internal-unstable (behavioural) attributions
4 = external-unstable (luck) attributions
5 = engagement coping
6 = separation coping
7 = work-habits coping
8 = reframing coping
9 = emotional exhaustion
10 = personal accomplishment
11 = job (dis)satisfaction
Table 9
Correlations for Predictor and Criterion Variables (N = 16)

<table>
<thead>
<tr>
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<th>3</th>
<th>4</th>
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<td>.58*</td>
</tr>
</tbody>
</table>

*p<.05  **p<.001  Two-tailed p<.05 = .48, p<.001 = .74.

Abbreviations:
1 = teacher stress  8 = control-cognitive coping
2 = internal-stable (characterological) attributions  9 = control-active coping
3 = external-stable (task-difficulty) attributions  10 = emotional exhaustion
4 = internal-unstable (behavioural) attributions  11 = low personal accomplishment
5 = external-unstable (luck) attributions  12 = job (dis)satisfaction
6 = escape-cognitive coping  7 = escape-active coping