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THE ROLE OF NEGATIVE AUTOMATIC THOUGHTS ON STRESS-RELATED PROCESSES AND SYMPTOMS OF DEPRESSION

by

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Abstract

Although stressful life events have frequently been associated with the evolution of depression, not all individuals who encounter such events develop this pathology. In fact, the impact of stressful events on psychopathology may, in part, be contingent on the way individuals appraise and cope with such experiences. In line with this hypothesis, results of the present study, using a student sample (N = 142 male and 335 female), indicated that negative appraisals, along with dysfunctional evaluations and endorsement of coping were associated with heightened depressive symptoms. Although many factors may contribute to appraisal and coping processes, it seems that negative appraisals and maladaptive coping may be related to persistent negative automatic thoughts. In support of this suggestion, increased frequency of negative thoughts was associated with negative appraisal tendencies, dysfunctional assessment of coping, and increased engagement of emotion-focused coping strategies at the expense of problem-focused coping methods. Given the relation between negative automatic thoughts, appraisal, coping, and ultimately, depression, determining how these negative cognitions emerge in the first place may be of particular significance. As revealed by the present investigation, the presence of early life trauma may be one process that contributes to the formulation of negative thoughts and increases the risk for depressive pathology.

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The Role of Negative Automatic Thoughts in Stress-Related Processes and Symptoms of Depression

Introduction

Although stressful life events have frequently been associated with the onset and progression of depression, not all individuals who are exposed to such events develop this pathology (Hammen, 2005; Kendler, Karkowski & Prescott, 1999; Paykel, 2001; 2003; Mazure, 1998). In line with these findings, the impact of stressful experiences on psychopathology may, in part, be contingent on the way individuals appraise and cope with such experiences. For instance, continuous appraisal of potential stressors as threatening, uncontrollable, and increased anticipation of negative outcome, along with dysfunctional beliefs regarding coping efficacy, may contribute to persistent negative emotional responses (e.g., sadness, anxiety and hostility) which, over time, may provoke symptoms of depression.

Individuals who exhibit negative appraisal tendencies and dysfunctional evaluations of coping efficacy may also be partial to engage in maladaptive or ineffective coping strategies, which may further increase the risk for depression or exacerbate already present depressive symptoms. For instance, individuals who evaluate active coping strategies as ineffective and passive coping strategies as effective may exhibit a propensity to excessively engage in emotion-focused coping strategies (e.g., emotional expression, emotional containment, and other/self blame) at the expense of problem-oriented coping methods (e.g., problem-solving, cognitive restructuring, and active distraction). This disproportionate reliance on emotion-focused coping strategies may then amplify the effects of the stressful situation which, over time, may provoke the onset of depressive pathology or exacerbate already present symptoms (Matheson & Anisman, 2003).

Although numerous factors may contribute to negative appraisals and maladaptive coping, the presence of negative cognitions may be especially important in this regard. For example, individuals who frequently experience negative automatic thoughts (e.g., "I am no good" or "My life is a mess") may be more inclined to appraise potential stressors as threatening, uncontrollable, or that a negative outcome is inevitable. Likewise, these negative self-statements may also compromise the individual's assessment of which coping strategies are effective in dealing with stressors and which coping strategies to engage in when faced with a potential stressor. Such dysfunctional coping may further exacerbate any negative repercussions associated with stressors, thereby provoking symptoms of depressive.

A history of childhood adversity, particularly early life trauma, has been reported to be a considerable risk factor for the development of major depression. One pathway through which this occurs may be through the formulation of negative automatic thoughts. In this respect, repeated exposure to uncontrollable traumatic life events is childhood (e.g., abuse, neglect, or parental loss) may lead to the emergence of dysfunctional beliefs and maladaptive information processing that can distort the individual's evaluation of their coping abilities. This, in turn, may compromise the way an individual appraises the specific characteristics of stressful encounters, resulting in the tendency to interpret various stressors as uncontrollable, threatening, and that negative outcomes are inevitable, irrespective of the characteristics of the situations.

Given these findings, the present investigation was meant to examine (1) the relationship between appraisals, perceived coping effectiveness and depressive symptoms (2) the relation between negative automatic thoughts, appraisals, coping, depressive symptoms, and (3) the relation between early life trauma, negative automatic thoughts, and depressive symptoms.

Depression

Major depression is characterised by depressed (low) mood or anhedonia (lack of interest or pleasure), and accompanied by a variety of related symptoms, including changes in body weight (increased or decreased), sleep disturbance (insomnia or hypersomnia), psychomotor retardation or agitation, fatigue, feelings of worthlessness or guilt, diminished cognitive functioning and recurrent thoughts of death (American Psychiatric Association [DSM-IV-TR], 2000). The lifetime prevalence of major depression is approximately 17%, affecting twice as many women than men (Kessler, McGonagle, Zhao, Nelson, Hughes, Eshleman et al, 1994). For over 75% of patients, major depression is a recurrent, lifetime illness, characterized by repeated remissions and exacerbations (Frank, 1999). Over 50% of patients who recover from a first depressive episode will have a second within 6 months unless given maintenance antidepressant treatment, and for those who never receive treatment, as many as 15% commit suicide (Frank, Kupfer, Perel, Cornes, Jarrett, Mallinger, et al, 1990; Guze & Robins, 1970). Taking into account the natural history, mental suffering, and medical morbidity associated with major depression, the World Health Organization has ranked the disorder as one of the leading causes of disability worldwide (Murray, 1996)

Minor depression, defined as not meeting diagnostic criteria for major depression, has been receiving increasingly greater attention as it has been found to be a significant risk factor for the development of a major depression. (Cuijpers & Smith, 2004; Judd, Akiskal & Paulus 1997; Broadhead, Blazer, George, & Tse, 1990). Additionally, the presence of subsyndromal depressive symptoms has a substantial impact on the quality of life of those affected (Cuijpers et al. 2004), is associated with increased utilization of medical services (Wagner et al., 2000), and carries an enormous economic burden (Cuijpers et al., 2007). Of particular importance,

approximately 15-20% of students entering university present with undiagnosed or subsyndromal symptoms of depression (Adlaf, Gliksman, Demers & Newton-Taylor; 2001; Hammen & Cochran, 1981), making subclinical psychopathological state an important target of preventive intervention and treatment.

Stress and Depression

It is known that individuals with major depression often report significantly higher levels of stressful life events prior to the onset of depressive episodes relative to non-depressed individuals (Kessler, 1997; Mazure, 1998; Hammen, 2005). For instance, it was documented that negative life events were 2.5 times more likely in depressed patients in comparison to non-depressed individuals, and approximately 80% of depressed cases were preceded by major life events (Mazure, 1998). Apart from the recognition that depression follows stressful experiences, certain life dimensions may be more aligned with depression than others (Mazure, 1998). In this regard, unique significance has been attributed to interpersonal/relationship-related events, specifically those characterized by loss. These events may include bereavement (e.g., death of a loved one), separations (e.g., romantic breakups), or threats of separation (Paykel & Cooper, 1992; Paykel, 2003). It has also been observed that stressors in other domains of life, such as health, achievement/work and financial strain may also comprise an important risk factor. As such, the concept of loss has been expanded beyond interpersonal events to include the cognitive and emotional processes through which these event may compromise, including loss of self-esteem, role loss, loss of cherished ideas, and humiliation (e.g., Brown, Harris, & Hepworth, 1995; Finlay-Jones & Brown, 1981; Kendler, 2003).

Chronic stress may also serve as a strong predictor for the onset of depressive episodes or depressive symptoms, and, in some contexts, may be a stronger predictor of depression than acute life events (McGonangle & Kessler, 1990). These chronic strains can include, but are not limited to, poverty, medical disabilities, or lasting marital discord (Brown & Harris, 1978; Bruce & Hoff, 1994; Dohrenwend, et al., 1992; Swindle, Cronkite, & Moos, 1989). The presence of chronic stress may also be predictive of developing a chronic course of depression (Hayden & Klien, 2001). Importantly, there may be a functional relationship between chronic and episodic stress in precipitating depressive episodes. Specifically, chronic stressors may exacerbate the effects of acute stress on depression or that life events may magnify the depressive consequences of chronic strains (Brown & Harris, 1978). The alternative, that chronic stress reduces the impact of acute stress on depressive symptoms, might also be true (McGonagle & Kessler, 1990). For instance, life events were stronger predictors of depression in married mothers compared to single mothers (who had higher levels of chronic stress) (Cairney et al. 2003). It was suggested that these findings reflected a "saturation" effect, in which single mothers were less reactive to life events because they were already experiencing high rates of chronic stressors and had become accustomed to dealing with them.

According to diathesis-stress theories, those individuals, by virtue of marked dispositional vulnerabilities to depression (e.g., biological, cognitive or experiential), will be negatively impacted by stressful experiences and develop psychopathology, in comparison to those with no inherent risk (Abramson et al. 1997). Alternatively, the presence of chronic stressors may result in continual activation of allostatic processes (adaptive biological changes that attenuate adverse stressor reactions), leading to excessive wear and tear on these biological systems (allostatic overload), and culminating in the emergence of depressive episodes or

exacerbating a pre-existing condition (McEwen, 2000). Fundamental to the stress-depression relationship is the "sensitization" model of depression which posits that individuals become sensitized (both neurochemically and behaviourally) to the effects of repeated stressor exposure and to recurrent episodes of depression. As a result, while initially, episodes of depression may require a relatively large degree of stress exposure, future episodes of depression may appear to be progressively independent of stressful encounters, and may be elicited by events that would ordinarily be interpreted as trivial (Post 1992; Anisman et al., 1993). In this respect, exploring the individual's previous stressor history may be important in determining their particular vulnerability to depression. For example, a history of childhood adversity, including poor maternal care, physical or sexual trauma, parental marital discord, exposure to family violence, parental loss, and parental mental illness or substance abuse have all been linked to depression later in life (Burbach & Borduin, 1986; Goodman, 2002; Hammen, 1991; Kaslow, Deering, & Racusin, 1994). Childhood abuse (psychical, sexual and emotional) has received particular empirical attention, with abuse conferring an especially powerful early-life experience, often leading to earlier age of depressive onset, more depressive and anxious symptoms, and more chronic course (Gladstone, Parker, Mitchell, Malhi, Wilhelm, & Austin, 2004).

Appraisal, Coping and Depression

The Appraisal Process. Appraisal refers to the subjective process through which the individual interprets and evaluates the dynamics of a person-environment transaction (Lazarus & Folkman, 1984). This process involves a variety of evaluative dimensions which are generally divided into two kinds of appraisal: primary and secondary. In primary appraisal, the individual evaluates if they have anything at stake in a particular transactions and, if so, what ways (e.g.

Does this situation pose a threat to my well-being or self-esteem?) (Lazarus & Folkman, 1984). Secondary appraisal is concerned with an evaluation of the individual's ability (as reflected by personal resources, and the effectiveness of these resources) to overcome or prevent any negative repercussions resulting from a stressful encounter (Lazarus and Folkman, 1984).

A central tenet of the appraisal process is that they are inherently relational. That is, appraisals are not a simple function of either the person's dispositional characteristics (i.e., secondary appraisal) or the characteristics of the person's circumstances (i.e., primary appraisal). Instead, the appraisal process reflects an evaluation of what the stressful circumstances imply for well-being in relation to the person's specific configuration of goals, abilities, and resources (Smith & Lazarus, 1990). In this regard, primary and secondary appraisals are not mutually exclusive, but rather interact to produce an overall percept of whether the situation is threatening, benign, or even positive (Lazarus & Folkman, 1984). For example, if the demands of a potentially stressful situation (i.e., primary appraisal) outweigh the individual's coping resources (i.e., secondary appraisal), that situation may be appraised as particularly threatening. Conversely, if the individual's coping abilities outweigh the demands of a given situation, that situation may then be perceived as a challenge.

Although the characteristics of the stressor play a fundamental role in the appraisal process, many situations individuals experience on a day-to-day basis are relatively ambiguous. Furthermore, this process is highly subjective, influenced by a number of dispositional antecedents that predispose individuals to interpret various situations in a relatively stable pattern (e.g., Power & Hill, 2010; Roesch & Rowley, 2005; Hemenover & Dienstbier, 1996). Importantly, it is this stable pattern appraisal that may ultimately have negative health repercussions (Folkman & Lazarus, 1986). Of course, it is not uncommon for individuals to

encounter and appraise a situation as threatening or uncontrollable from time to time. And, while such an appraisal may elicit a negative an emotional response, if experienced infrequently, the likelihood of it having a negative impact of health is minimal. However, if these negative appraisals persist overtime and across situations, the individual will repeatedly experience negative emotions, and this may significantly increased the risk for negative health outcomes. Accordingly, personality researchers have identified several global personality constructs that have been associated with such general appraisal styles, including hardiness (Kobasa, 1979), optimism (Carver & Scheier, 2002), hope (Snyder, Rand & Sigmon, 2002), hopelessness (Beck, Weissman, Lester & Trexler, 1974), hostilily (Buss & Perry, 1992), trait negative/positive affectivity (Elliot, Chartrand & Harkins, 1994), and extraversion and neuroticism (Gallagher, 1990). The relationship between personality and appraisals is, however, modest at best (Shewchuck, Elliot, MacNair-Semands & Harkins, 1999). These findings are not entirely surprising as appraisal tendencies, just as coping style, may change over time. Therefore, although these global personality characteristics certainly may contribute to the way individuals perceive potentially stressful situations, there are most likely a number of other contributing factors.

Beyond personality characteristics, these negative appraisal tendencies may also be rooted within dysfunctional secondary appraisals, reflected by the individual's evaluation of coping availability and effectiveness (Cignac & Gotlieb, 1997; Lazarus & Folkman, 1984). Specifically, given the relation between primary and secondary appraisals, perceptions of inadequacy regarding one's ability or potential to cope may lead to persistent negative appraisals of potentially stressful situations. These negative appraisals may then provoke consistent negative emotional responses which, in turn, may promote psychological disturbances.

Appraisal and Depression. Although negative appraisal biases have been implicated in depressive illness, certain facets of appraisal seem be more aligned with the development of this pathology than others (Folkman & Lazarus, 1986). In this respect, perceived controllability and expected outcome in the face of stressful encounters may be particularly important. For instance, individuals who consistently appraise stressful events to be out of their control and continually expect negative outcomes may be more prone to experience a sense of "helplessness or hopelessness" and, over time, this may lead to the development of depressive symptoms (Seligman & Maier, 1967). Additionally, individuals continually judge that they have much more at stake (whether physical, psychological, social, or material), regardless of the actual stakes involved, may appraise challenging events as threatening, harmful, or stressful rather than viewing them as an opportunity for learning, mastery and growth. This tendency of appraisal may then contribute to persistent depressogenic emotional responses (e.g., sadness, anxiety and hostility), thus promoting depressive symptoms (Folkman & Lazarus, 1986). What remains unclear, however, is whether this relation between negative appraisals and depression is consistent across all types of stressors or unique to specific types of situations. In fact, as previously described, stressors within relationship and interpersonal life domains have been reported to provoke depressive symptoms more readily than other types of stressors. Thus, individuals who are depressed, or at risk for depression, may exhibit a negative appraisal bias that is specific to relationship and interpersonal events.

The Coping Process. Once an event has been appraised as stressful, an attempt is made to manage the specific external and/or internal demands by engaging an array of cognitive and behavioural coping efforts, which have generally been clustered according to two major functions: problem-focused and emotion-focused coping (Folkman & Lazarus 1980; 1984)

Problem-focused coping involves actively addressing the circumstances causing distress, and emotion-focused coping is aimed at ameliorating the negative emotions associated with the situation by using predominately affective strategies. Problem-focused coping includes strategies such as problem-solving, cognitive restructuring and active distraction, whereas emotion-focused may consist of are emotional containment, emotional expression and self- or other-blame.

The endorsement of any given coping strategy is not inherently good or bad. Instead, the adaptive qualities of coping strategies are often evaluated by the individual in the specific stressful context in which they occur (Lazarus and Folkman, 1984). That is, a given coping strategy may be effective in one situation but not in another. Generally, situations appraised as controllable favour the use problem-focused strategies, while situations interpreted as uncontrollable or emotionally charged the use of emotion-focused strategies is more adaptive (Folkman & Lazarus, 1980; Billings & Moos, 1981). The person-environment transaction is, however, dynamic thus what might be effective at the outset of a stressful situation may be ineffective later on. Additionally, utilization of coping strategies do not occur in isolation of one another; that is, in the presence of a stressor, individuals often engage in a number of coping strategies (both problem- and emotion-focused), and when certain coping strategies prove to be ineffective, other coping strategies may be utilized (Matheson & Anisman, 2003). In this respect, it has been suggested that it may be more productive to examine the individual's profile or style of coping rather than determining the efficacy of any one strategy (Matheson & Anisman, 2003).

Coping and Depression. The use of inappropriate or ineffective coping strategies in response to stressful experiences has been well documented in the development and progression of depressive pathology. Rather than engaging in problem-oriented coping strategies, depressed individuals, as well as those presenting with subsyndromal depressive symptoms, tend to favour

the excessive use of emotion-focused coping (including, emotional expression, other-blame, self-blame, emotional containment and passive resignation) at the expense of problem-focused coping strategies, such as problem-solving, cognitive restructuring, and active distraction (Matheson & Anisman, 2003). Additionally, the pattern and specific combination of strategies utilized among depressed individuals is different from that of non-depressed individuals. For example, dysthymic patients tend to endorse more rumination along with emotion-focused coping strategies compared to non-depressed controls. Importantly, these patterns of coping appear to be state dependent of affective state. For instance, following 12 weeks of antidepressant treatment, initially dysthymic patients presented with changes in their coping style, characterized by reduced levels of emotional expression, self-blame, and emotional containment, in addition to, a substantial decline in the endorsement of rumination, along with an increase in cognitive restructuring (Kelly, Matheson, Ravindran, Merali & Anisman, 2004).

Negative Automatic Thoughts in Relation to Appraisals, Coping, and Depression.

Cognitive vulnerability-stress models of depression posit that an individual's negative beliefs systems and maladaptive information processing heighten vulnerability to depression when faced with stressful life circumstances. These cognitive vulnerabilities generally encompass a set of negative thoughts or self-statements that revolve around personal maladjustment and desire for change (e.g., "I wish I were a better person"), negative self-concepts and negative expectations (e.g., "I'm no good"; "Why can't I ever succeed"), low self-esteem (e.g., "I'm worthless"), and helplessness/hopelessness (Abramson et al., 1989; Beck, 1970; 1987; Hollon & Kendall, 1980). These negative thoughts are believed to function in an automatic manner in which they are rapid, involuntary, and spare other resources (Beck, 2008).

The dominance of this automatic system results in negative attentional and interpretational biases that may directly contribute the emergence and maintenance of depressive symptoms. Likewise, such negative automatic thoughts may also operate through their influence on appraisal and coping processing of personally relevant life experiences (Alloy et al, 1999). That is, these negative beliefs and maladaptive information processing may distort the individual's interpretations of the external environment, leading to increased tendencies to appraise potential stressful situations in a particularly negative manner. For example, individuals who frequently experience such negative thoughts (e.g., I'm no good") may be inclined appraise potential stressors as threatening and uncontrollable. These negative appraisal tendencies may then elicit persistent negative emotional responses which, over time, may promote depressive symptoms. As well, the negative cognitions may compromise the way individuals evaluate the effectiveness of specific coping strategies (develop the belief that problem-focused coping strategies are ineffective ways of dealing with stressors, whereas emotion-focused coping strategies are effective). Such dysfunctional reasoning may then lead to a passive way of coping with stressors which might increase vulnerability to depressive pathology.

Development of Negative Automatic Thoughts.

Early life adversity has been reported to increase the risk for depression throughout the lifespan. One pathway through which this occurs may be through the development of negative automatic thoughts. For instance, repeated or chronic exposure to uncontrollable negative events in childhood may contribute to the formulation of negative cognitive styles (e.g., dysfunctional attitudes and negative attributional style) where children may, over time, internalize the belief that negative life events are inevitable, always result negative consequences, and are attributable

to negative aspects of themselves (Rose and Abramson, 1992). These negative cognitive styles may then become activated by later adverse events in adolescence or adulthood, reinforcing maladaptive evaluations of coping capabilities and negative appraisal biases, thus promoting the development of depressive pathology (Beck, 2008). Early life trauma may also be a particularly important contributor to the development of negative appraisal styles as a history of childhood abuse, maltreatment, or parental loss (e.g., death of a parent of divorce) may sensitize individuals to later negative life events, potentially through influences on appraisal and coping processes, making depressive symptoms more likely to emerge following stressors encountered later in life (Harkness & Lumley, 2008; Beck, 2008).

The Present Study

Although stressful experiences play an important role in the emergence and persistence of depressive symptomatology, not all individuals who are exposed to stressors develop symptoms of depression. In this regard, differences in the way individuals appraise and cope with stressors may be important factors in determining why some individuals are vulnerable to the effects of stressors while others are resilient. With this in mind, it is hypothesized that:

1. Although negative appraisals, in general, will be aligned with depressive symptoms, negative appraisals of relationship and interpersonal situations will exhibit the strongest relationship in this regard.
2. Dysfunctional evaluations of coping effectiveness will also be associated with i) increased perceptions of threat, ii) decreased perceived control, iii) increased anticipation of negative outcomes, and iv) elevated depressive symptoms.

3. Increased frequency of negative automatic thoughts will be associated with negative appraisals and dysfunctional evaluations of coping effectiveness and this, in turn, will be related with heightened depressive symptoms.
4. Negative life events and negative automatic thoughts will have a cumulative relationship with depressive symptoms.
5. Negative automatic thoughts will mediate the relationship between early life trauma and depressive symptoms.

Method

Participants and Procedure.

Participants were recruited online by the SONA system at Carleton University (Appendix A). Participants comprised 142 male (*M* age = 20.61, *SD* = 3.83) and 335 female (*M* age= 20.25, *SD* = 3.83) undergraduate students. Based on the responses of those reporting racial background, this sample was 58.3% (*n* = 281) Caucasian, 11.8% (*n* = 57) Asian, 8.7% (*n*= 42) Black, 6.0% (*n* = 29) Arab, 5.4% (*n* = 26) Mixed Ethnicity, 4.8% (*n* = 23) South Asian, 1.5% (*n* = 7) Latin American, 1.0% (*n* = 5) South East Asian, and 0.4% (*n* = 2) Aboriginal. Upon arrival to the testing session, participants were informed of the nature of the study and their consent will be obtained (See Appendix B). The study was described as how individual characteristics affect one's ability to handle life's stresses. After written consent was obtained, participants were asked to complete a short questionnaire package, consisting of: General Information (Appendix D), the Beck Depression Inventory (BDI, Beck & Beck, 1972), the Traumatic Life Events Questionnaire (TLEQ; Kubany et al, 2000), a modified version of the Life Experiences Survey (LES-R;

Sarason, Johnson, & Steer, 1988), the Survey of Coping Endorsements (SCOPE; Matheson & Anisman, 2003), a revised version of the Appraisal of Ambiguous Situations Questionnaire (AASQ; Kelly, Matheson & Anisman, 2003), and the Automatic Thoughts Questionnaire (ATQ; Hollan & Kendall, 1980). Upon completion of the study, all participants were debriefed (see Appendix C).

Measures

Depressive Symptoms. The intensity of depressive symptoms was assessed using the Beck Depression Inventory (BDI-13 item version; Beck & Beck, 1972; Appendix E). The BDI is a widely used psychometrically sound self-administered questionnaire to assess the intensity of depression in clinical and normal individuals. For each item, individuals pick the best statement that describes their depressive symptomatology. Lower numbers (e.g., 0) are indicate lower intensity of depressive symptoms, while higher number (e.g., 4) are related to greater intensity. The intensity of depression is computed by summing the scores across all 13 items resulting in scores ranging from 0 to 39. The BDI has a moderate correlation with both the Hamilton Rating Scale (HAM-D) and Montgomery-Asberg Depression Rating Scale (MADRS). The Cronbach's α for the BDI in the present study was .83.

Appraisals. Appraisal style was assessed using a shortened version of the Appraisal of Ambiguous Situations Questionnaire (10-item AASQ; Kelly, Matheson, & Anisman, 2003; Appendix H). The shortened version of the AASQ is comprised of 10 commonly encountered ambiguous situations, including (a) interpersonal, (b) relationship, (c) academic, (d) financial, and (e) health difficulties and concerns. Participants are asked to appraise each event on 4 appraisal dimensions; threat (How threatening is this situation for you?), distress (How

distressing would this situation be for you?), control (How much control do you think you would have over this event?), and outcome (What do you think would be most likely to happen in this situation?). Both threat and distress items are each answered using a likert scale that ranges from "Not at all" (1) to "Extremely" (5). The control item is answered on a likert scale that ranges from "No control" (1) to "Complete control" (5). The outcome scale comprises 5 possible outcomes that range from a "positive" outcome (1) to a "negative" outcome (5). Situation-specific appraisals were computed by taking the average of the 2 matched situations. Appraisal tendencies were assessed by taking the average for each appraisal dimension (i.e., threat, distress, control, and outcome) across all situations. The Cronbach's αs for threat, control, and outcome appraisals were .75, .80, and .67, respectively.

Coping Style and Perceived Coping Effectiveness. Coping style and perceived coping effectiveness were assessed using the Survey of Coping Profile Endorsement (SCOPE; Matheson & Anisman, 2003; Appendix I). The SCOPE is a 50-item measure comprised of 13 coping strategies including problem-solving, cognitive restructuring, active distraction, cognitive distraction (avoidance), wishful thinking, rumination, humour, social support seeking, emotional expression, other-blame, self-blame, emotional containment, and passive resignation. Respondents first indicate the extent to which they had demonstrated each of the behaviours as a way of dealing with stressors in general using a scale of 0 (Never) to 4 (Frequently). Respondents then indicate whether they believe the particular strategy is an effective way of dealing with potentially stressful circumstances using a scale of 0 (Not at all) to 4 (Extremely). Scores for each of the 13 strategies are obtained by taking the average score of the items that comprise each strategy. Psychometric properties have been previously validated in academic and clinical populations (e.g., Carleton University and the Royal Ottawa Hospital) to assess internal

consistencies of items producing the 13 coping strategies. Cronbach's αs for the 12 coping strategies ranged from 0.26 to 0.71 (Matheson & Anisman, 2003). The reliabilities it the present study ranged from .62 to .83[1].

Negative Automatic Thoughts. The frequency of negative automatic thoughts was assessed using the Automatic Thoughts Questionnaire (ATQ; Hollan & Kendall, 1980; Appendix I). The ATQ is a 30-item instrument that measures the frequency of automatic negative statements about the self. Such statements have been suggested to play an important role in the development, maintenance and treatment of various psychopathologies, including depression. ATQ taps 4 aspects of these automatic thoughts: personal maladjustment and desire for change (PMDC), negative self-concepts and negative expectations (NSNE), low self-esteem (LSE), and Helplessness. Participants are asked to read a variety of thoughts that "pop into people's heads" and indicate how frequently, if at all, the thought occurred to them over the past week. Each item is answered using a likert scale ranging from "Not at all" (1) to "All the time" (5). The frequency of negative automatic thoughts is scored by taking the sum of all 30 items. A high total score indicates a high level of automatic negative self-statements. This measure has excellent internal consistency with a Cronbach's α of .97. In the present study the Cronbach's α was .96[2,3].

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[1] In the present study, participants were also asked how feasible all of the coping options were given their current circumstances. As the results *of perceived coping feasibility* where identical to *perceived coping effectiveness*, only the results of *perceived coping effectiveness* are presented.

[2] The ATQ tabs into 4 aspects of negative automatic thoughts (Hollon & Kendall, 1980). However, based on the high intercorrelations (see Table 1) it was decided to aggregate all factors to create one total score of frequency of negative automatic thoughts.

[3] In the present study, the ATQ also asked respondents to rate the degree of belief of each 30-items, with high total scores indicating greater believability in negative thoughts (Hollon & Kendall, 1980). As the results of the *believability* factor where almost identical to those of the *frequency* factor, it was decided to only present the results of the frequency factor.

Table 1. *Pearson Correlations among Automatic Thoughts Questionnaire (ATQ) Sub-Factors.*

ATQ Sub-factors	1.	2.	3.	4.
1. Personal Maladjustment & Desire for Change	-			
2. Negative Self-Concepts & Negative Expectations	.78**	-		
3. Low Self-Esteem	.64**	.72**	-	
4. Helplessness	.62**	.71**	.54**	-

Note. $^{**}p < .01$

Negative Life Events. The negative impact of life events over the past year were assessed using the Life Experiences Survey (LES; Sarson, Johnson & Siegel, 1978; Appendix G). The LES is a 49-item self-report measure that asks respondents to indicate whether or not they have experienced a particular negative event and, if experienced, the extent of impact, from 0 (no impact) to 100 (extreme impact), the event had on their lives at the time of the experience. The cumulative impact of negative life events is computed by summing all events experienced over the course of the year. Higher scores indicate greater negative impact of life events over the past year[4].

Early Life Trauma. Early life trauma was assessed using the Traumatic Life Events Questionnaire (TLEQ; Kubany et al, 2000; Appendix F). This measure is comprised of 23 items

[4] To note, secondary analyses were conducted using simply the number of events experienced instead of the *cumulative impact* of all negative life events. The results of the secondary analysis were nearly identical to those presented in this thesis.

that assess exposure to a broad spectrum of potentially traumatic events, ranging from natural disasters, accidents, assaults, and childhood abuses. Events are described in behaviourally descriptive terms (consistent with the DSM-IV stressor criterion A1). The frequency of occurrence of each event is assessed using a 7-point scale on which participants indicate whether each event has occurred from never (0) to more than five times (6). When events are endorsed, respondents are asked if they experienced intense fear, helplessness, or horror (the PTSD stressor criterion A2 in the DSM-IV), and how long ago the event occurred. The total number of traumatic events reported by participants is calculated by summing the number of items to which they had indicated experiencing fear, helplessness, or horror. Early life trauma was operationalized as events that occurred at or prior to the age of 13. As such, early trauma was computed by summing up all events that occurred at or prior to the age of 13.

Results

Primary Appraisals in Relation to Depressive Symptoms

As appraisals may contribute to the evolution of depressive pathology, the initial aim of the present study was to determine whether the relationship between appraisals and depressive symptoms was consistent across different situations or unique to specific types of situations. As such, three standard regression analyses were conducted in which scores on the BDI were regressed onto appraisals (i.e., threat, control, and outcome) of five different types of ambiguous situations. As expected, *Threat* appraisal of most types of situations were predictive of depressive symptoms $R^2 = .07$, $F(5, 472) = 7.25$, $p < .001$. Although each type of situation-specific threat appraisal, with the exception of health-related threat appraisal, were positively

correlated with depressive affect (see Table 2), only threat appraisals revolving around *relationship* and *academic* situations accounted for unique variance in BDI scores. However, it should be noted that the high intercorrelation between each situation-specific threat appraisal (see Table 3) may have precluded unique effects for *interpersonal* and *financial* situations.

Table 2. *Regression Analysis Assessing Relations between BDI Scores and Situation-Specific Threat Appraisals and of the AASQ*

Situation	*r*	*β*	R^2
Health	.06	-.05	.07***
Relationship	.21**	.14*	
Interpersonal	.13**	-.01	
Academic	.23**	.17**	
Financial	.16**	.05	

Note. * $p < .05$; ** $p < .01$; $p < .001$; BDI = Beck Depression Inventory; AASQ = Appraisals of Ambiguous Situations Questionnaire

Table 3. *Pearson Correlations among Situation-Specific Threat Appraisals of the AASQ.*

Situation	1.	2.	3.	4.	5.
1. Health	-				
2. Relationship	.31**	-			
3. Interpersonal	.25**	.44**	-		
4. Academic	.32**	.44**	.41**	-	
5. Financial	.29**	.40**	.34**	.43**	-

Note. ** $p < .01$; AASQ = Appraisals of Ambiguous Situations Questionnaire

Similar to situation-specific threat appraisals, situation-specific *Control* appraisals of ambiguous situations were predictive of BDI scores $R^2 = .04$, $F(5, 472) = 3.52$, $p = .004$; however, surprisingly, control appraisals accounted for only a marginal proportion of variance in BDI scores. In this case, although control appraisals of *interpersonal*, *academic*, and *financial* situations were negatively correlated with depressive affect (see Table 4), only control appraisal of *academic* situations accounted for unique variance in BDI scores. Again, as in the previous analysis, the marked intercorrelation between each situation-specific control appraisal (see Table 5) may have precluded unique effects for *interpersonal* and *financial* situations.

Table 4. *Regression Analysis Assessing Relations between BDI Scores and Situation-Specific Control Appraisals and of the AASQ*

Situation	*r*	*β*	R^2
Health	-.06	.04	.04**
Relationship	-.06	.07	
Interpersonal	-.11*	-.07	
Academic	-.16**	-.14*	
Financial	-.14**	-.10	

Note. * $p < .05$; ** $p < .01$; BDI = Beck Depression Inventory; AASQ = Appraisals of Ambiguous Situations Questionnaire

Table 5. *Pearson Correlations among Situation-Specific Control Appraisals of the AASQ.*

Situation	1.	2.	3.	4.	5.
1. Health	-				
2. Relationship	.51**	-			
3. Interpersonal	.43**	.54**	-		
4. Academic	.45**	.46**	.36**	-	
5. Financial	.50**	.49**	.43**	.43**	-

Note. ** $p < .01$; AASQ = Appraisals of Ambiguous Situations Questionnaire

Finally, situation-specific *Outcome* appraisals were also predictive of BDI scores, R^2 = .15, $F(5, 469) = 3.52$, $p < .001$, whereby increased anticipation of negative outcomes was associated with heightened symptoms of depression. As illustrated in Table 6, although each of the situation-specific outcome appraisals exhibited positive zero-order correlations with depressive affect, only *relationship* and *academic* outcome appraisals accounted for unique variance in BDI scores. Again, as with the previous two analyses, the relatively high intercorrelation between each situation-specific outcome appraisal (see Table 7) may have prevented any of the other situations from explaining further unique variance in BDI scores.

Table 6. *Regression Analysis Assessing Relations between BDI Scores and Situation-Specific Outcome Appraisals and of the AASQ*

Situation	*r*	*β*	R^2
Health	.21**	.08	.15***
Relationship	.23**	.09*	
Interpersonal	.22**	.08	
Academic	.33**	.23**	
Financial	.21**	.07	

Note. * $p < .05$; ** $p < .01$; $p < .001$; BDI = Beck Depression Inventory; AASQ = Appraisals of Ambiguous Situations Questionnaire

Table 7. *Pearson Correlations among Situation-Specific Outcome Appraisals of the AASQ.*

Situation	1.	2.	3.	4.	5.
1. Health	-				
2. Relationship	.23**	-			
3. Interpersonal	.24**	.30**	-		
4. Academic	.32**	.30**	.30**	-	
5. Financial	.22**	.33**	.26**	.32**	-

Note. ** $p < .01$; AASQ = Appraisals of Ambiguous Situations Questionnaire

Perceived Coping Effectiveness in Relation to Depressive Symptoms

In addition to differences in the way individuals appraise the characteristics of specific situations, their evaluation of their own ability to cope with potentially stressful circumstances may also contribute to the evolution of depressive pathology. As such, a standard regression analysis, in which BDI scores were regressed onto scores for perceived effectiveness of each of the 13 coping strategies, was conducted to investigate the relationship between perceived coping effectiveness and depressive affect. This analysis revealed that symptoms of depression were significantly related to the perceived effectiveness of the 13 coping strategies $R^2 = .07$, $F(13, 463) = 2.82$, $p = .001$. As illustrated in Table 8, perceived effectiveness of problem-focused coping strategies were generally negatively correlated with heightened symptoms of depression. Specifically, perceptions that problem-solving, cognitive restructuring, active distraction, humour, and social support were ineffective coping strategies was related to heightened

depressive symptoms. In contrast, heightened depressive symptoms were associated with increased belief that emotional expression was an effective coping strategy.

Table 8. *Regression Analysis Assessing Relations between BDI Scores and the Perceived Coping Effectiveness.*

Strategy	*r*	*β*	R^2
Problem Solving	-.14**	-.02	.07***
Cognitive Restructuring	-.15**	-.07	
Active Distraction	-.15**	-.13*	
Cognitive Distraction	-.01	.02	
Rumination	-.01	-.03	
Humour	-.10*	-.04	
Social Support	-.16**	-.06	
Emotional Expression	.13**	.17**	
Other Blame	.05	.01	
Self Blame	.03	.04	
Emotional Containment	.03	-.00	
Passive Resignation	-.08	-.08	
Wishful Thinking	.03	.04	

Note. * $p < .05$; ** $p < .01$; ***$p < .001$

The Relationship between Perceived Coping Effectiveness and Appraisals

To determine whether perceived coping effectiveness was associated with the appraisal dimensions of interest, three separate standard regression analyses were conducted in which threat, control, and outcome dimensions were regressed onto the perceived effectiveness of the 13 coping strategies comprising the SCOPE. As illustrated in Table 9, the *threat*, $R^2 = .14$, $F(13, 463) = 5.98$, $p < .001$, and *outcome*, $R^2 = .06$, $F(13, 463) = 2.27$, $p = .004$, dimensions of appraisal were significantly associated with perceived coping effectiveness; however, control was not significantly related to perceived coping effectiveness, $R^2 = .04$, $F(13, 463) = 1.58$, $p = .084$. In particular, increased effectiveness of problem-focused coping strategies that comprised problem-solving, cognitive restructuring and humour were predictive of *decreased* threat appraisal. Conversely, increased effectiveness of emotion-focused coping strategies, comprising rumination, emotional expression, other-blame, self-blame, emotional containment, and wishful thinking, were predictive of *increased* threat appraisal. Lastly, increased effectiveness of cognitive distraction was associated increased threat appraisal. As in the case of threat appraisal, perceptions of increased effectiveness of problem-focused coping, comprising active distraction, humour, and social support seeking, were associated with *decreased* anticipation of negative outcomes; whereas, perceptions of increased effectiveness of passive resignation (an emotion-focused strategy) was predictive of *increased* anticipation of negative outcome.

Table 9. *Regression Analysis Assessing Relations between Appraisals of Threat, Control, and Outcome and Perceived Coping Effectiveness.*

	Threat			Control			Outcome		
	r	*β*	R^2	*r*	*β*	R^2	*r*	*β*	R^2
Coping Strategies			.14***			.04			.06**
Problem Solving	-.09*	-.10*		.04	.05		-.07	.00	
Cognitive Restructuring	.10*	.15**		.05	-.05		-.08	.04	
Active Distraction	.05	.05		.12**	.09		-.15**	-.10	
Cognitive Distraction	.14**	.04		.09	-.01		-.06	-.01	
Rumination	.14**	.05		.12**	.06		-.07	-.07	
Humour	-.09*	-.27***		.10*	.04		-.15**	-.10	
Social Support	.01	.02		.01	-.06		-.12*	-.07	
Emotional Expression	.28**	.23***		.10*	-.01		.01	.09	
Other-Blame	.13**	-.05		.10*	-.01		-.04	.00	
Self-Blame	.10**	-.02		.10*	.00		-.02	.03	
Emotional Containment	.11*	.01		.10*	.00		-.06	-.06	
Passive Resignation	.05	-.06		.16**	.10		-.14**	-.13*	
Wishful Thinking	.23**	.14*		.13**	.06		.00	.10	

Note. * $p < .05$; ** $p < .01$; $p < .001$

Negative Automatic Thoughts in Relation to Appraisals and Depressive Symptoms

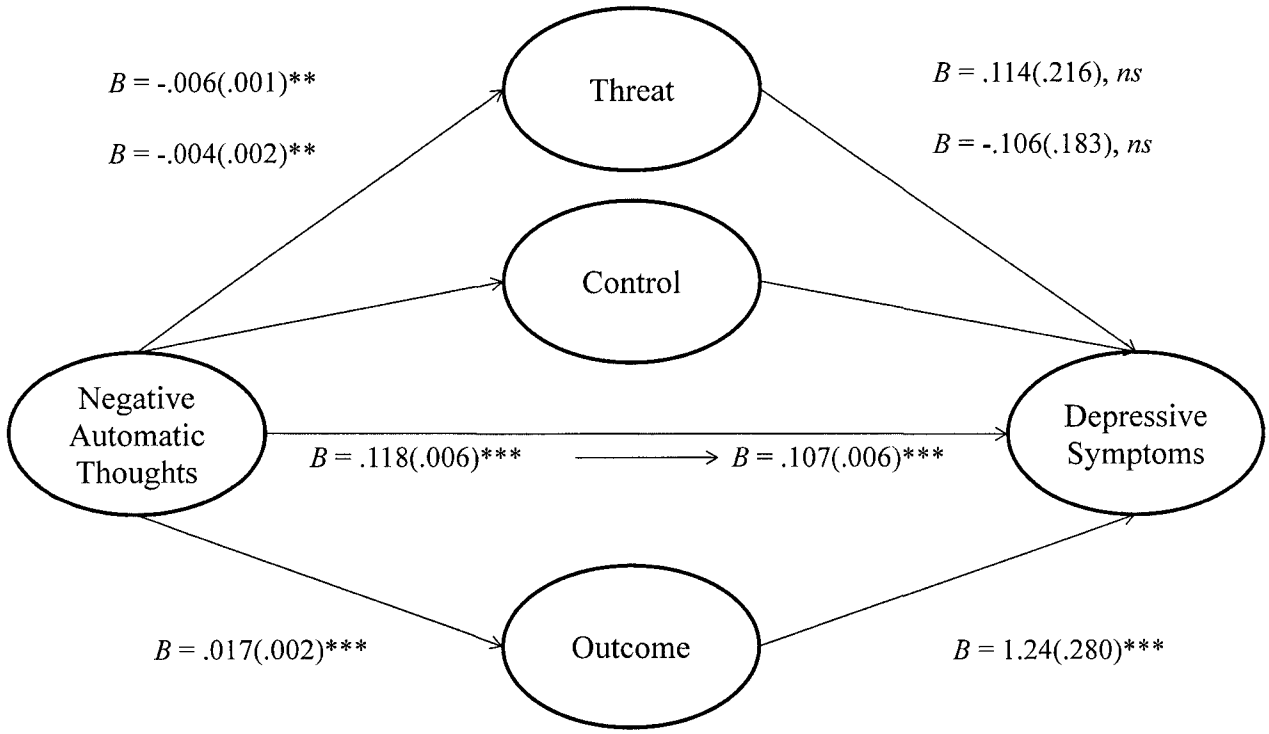
The results described to this point suggest that heightened depressive symptoms are associated with maladaptive appraisals of threat, control, and outcome. Thus, the next major objective of the current study was to examine if the presence of cognitive vulnerability to depression, in the form of persistent negative automatic thoughts, contributed to these maladaptive appraisal and coping processes and, ultimately, depressive affect. In particular, to determine whether negative automatic thoughts were associated with the appraisals of interest, a standard regression analysis was conducted in which scores for the frequency of negative automatic thoughts were regressed onto appraisals of threat, control, and outcome. As expected, this analysis revealed that negative automatic thoughts were significantly associated with all three dimensions of appraisal, $R^2 = .12$, $F(3, 469) = 21.30$, $p < .001$. As seen in Table 10, while all three dimensions of appraisal exhibited significant zero-order correlations with negative automatic thoughts, only threat and outcome appraisals accounted for unique variance in the frequency of negative automatic thoughts.

Table 10. *Multiple Regression Analysis Assessing the Relations between Negative Automatic Thoughts and Appraisals.*

Strategy	*r*	*β*	R^2
Control	-.14**	-.08	.12***
Threat	.22**	.12*	
Outcome	.32**	.26***	

*** p < .001; ** p < .01; * p < .05

To explore the potential mediating role of appraisals in the relation between negative automatic thoughts and depressive symptoms, Preacher and Hayes' (2004, 2008) method for assessing multiple mediation, using 5000 bootstrap iteration and 95% bias and accelerated confidence intervals, was employed. Prior to this analysis, however, a standard regression analysis was conducted to establish the relation between negative automatic thoughts and depressive symptoms. The standard regression analysis revealed that negative automatic thoughts were significantly predictive of depressive symptoms, $R^2 = .46$, $F(1, 470) = 394.89$, $p < .001$. As shown in Figure 1, the direct relation between negative automatic thoughts and depressive symptoms was significant, but this effect was significantly reduced when threat, control, and outcome where entered as mediators. Inasmuch as the effect remained significant, it seems that appraisals might have served as partial mediators in the effect between negative automatic thoughts and depressive symptoms. Examination of the 95% confidence limits for the mediated paths through threat (C.I.: -.001, .003), control (C.I.: -.002, .003), and outcome (C.I.: .005, .015) further indicated that outcome uniquely served as a mediator in the relation between negative automatic thoughts and depressive symptoms.



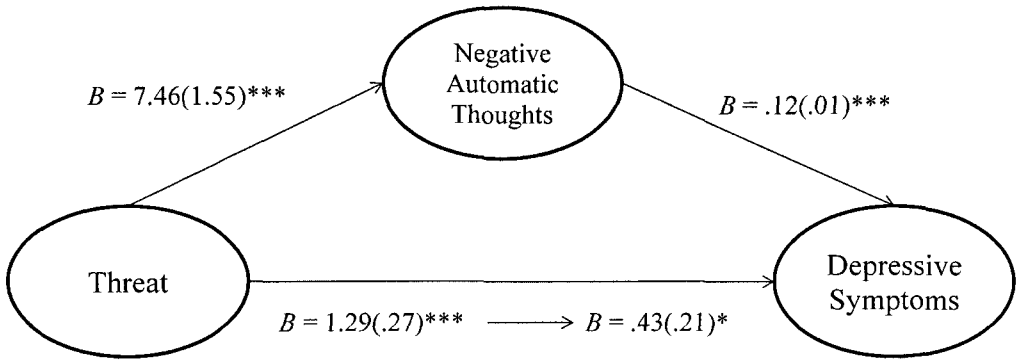
$R^2 = .49$, $F(4, 467) = 110.15$, $p < .001$

Note. ** $p < .01$; ***$p < .001$

Figure 1. *The mediating effects of threat, control and outcome appraisals on the relationship between the negative automatic thoughts and depressive symptoms. Coefficients are the unstandardized path coefficients, with standard errors indicated in brackets. C.I. represents the 95% confidence interval around the mediated path coefficient.*

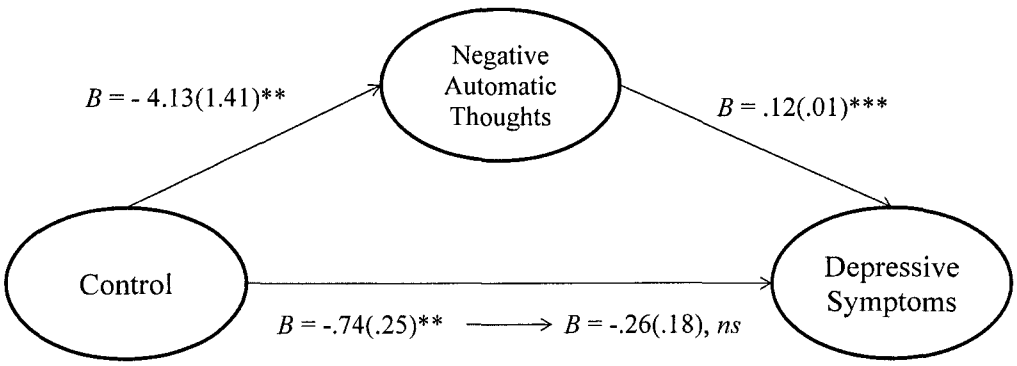
As these data were correlational, mediation models assessing alternative directional paths were also evaluated. For example, it was possible that persistent negative appraisals would activate negative automatic thoughts about the self, and hence promote depressive symptoms. As illustrated in Figures 2 to 4, the direct relations between threat, control, and outcome appraisals and depressive symptoms were significant. However, upon examination of the 95% confidence intervals, when negative automatic thoughts was entered as a mediator for threat (C.I.: .47, 1.27),

control (C.I.: -.80, -.16), and outcome (C.I.: .92, 2.02), appraisals, these relations where all significantly reduced. Thus, thus possibility that negative appraisals preceded the negative automatic thoughts remains viable.



$R^2 = .46$, $F(2, 469) = 200.96$, $p < .001$
Note: *** $p < .001$; * $p < .05$

Figure 2. *Alternative Mediation Model considering Negative Automatic Thoughts as a Mediator between Threat Appraisal and Depressive Symptoms.*



$R^2 = .46$, $F(2, 469) = 198.85$, $p < .001$
Note: *** $p < .001$; ** $p < .01$

Figure 3. *Alternative Mediation Model considering Negative Automatic Thoughts as a Mediator between Control Appraisal and Depressive Symptoms.*

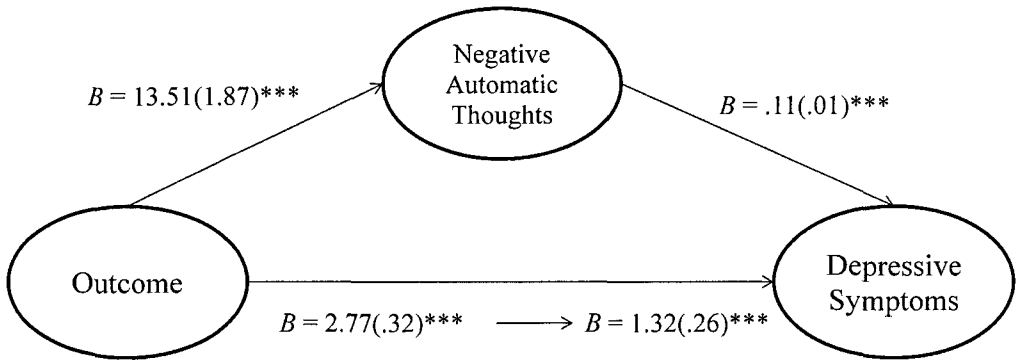


Figure 4. *Alternative Mediation Model considering Negative Automatic Thoughts as a Mediator between Outcome Appraisal and Depressive Symptoms.*

Negative Automatic Thoughts in Relation to Perceived Coping Effectiveness and Depressive Symptoms

Just as the presence of negative automatic thoughts may influence that way individuals appraise various potentially stressful situations, these thoughts might also influence they way individuals evaluate their ability to cope with such experiences. Thus, to determine if negative automatic thoughts are associated perceived coping effectiveness, a standard regression analysis was conducted in which the frequency of negative automatic thoughts was regressed onto the perceived effectiveness of the 13 coping strategies comprising the SCOPE. Results of this analysis revealed that the frequency of negative automatic thoughts was, as expected, significantly related to perceived coping effectiveness, $R^2 = .09$, $F(13, 453) = 338$, $p < .001$. In particular, (see Table 11) increased frequency of negative automatic thoughts was associated with perception of *decreased* effectiveness of active distraction and social support. Conversely,

increased frequency of negative automatic thoughts was associated with perceptions of *increased* effectiveness of emotion-focused coping strategies including, rumination, other-blame, emotional expression, emotional containment, and wishful thinking.

Table 11. *Multiple Regression Analysis Assessing the Relations between Negative Automatic Thoughts and Perceived Coping Effectiveness.*

Strategy	*r*	*β*	R^2
Problem Solving	-.07	.04	.09***
Cognitive Restructuring	-.05	-.02	
Active Distraction	-.15**	-.18***	
Cognitive Distraction	.05	.06	
Rumination	.11*	.08	
Humour	-.06	-.04	
Social Support	-.09*	-.02	
Emotional Expression	.17**	.15*	
Other Blame	.11*	.07	
Self Blame	.03	-.07	
Emotional Containment	.12*	.07	
Passive Resignation	-.06	-.13*	
Wishful Thinking	.09*	.06	

*** $p < .001$; ** $p < .01$; * $p < .05$

To explore the mediating role of perceived coping effectiveness in the relation between negative automatic thoughts and depressive symptoms, Preacher and Hayes' (2004, 2008) method for assessing multiple mediation, using 5000 bootstrap iteration and 95% bias and accelerated confidence intervals, was employed. As the only coping strategies that exhibited significant zero-order with both negative automatic thoughts and depressive symptoms were active distraction, social support, and emotional expression, these were the only strategies considered in the analysis. As shown in Figure 5, the direct relation between negative automatic thoughts and depressive symptoms was significant, but this effect was significantly reduced when the perceived effectiveness of active distraction, social support, and emotional expression where entered as mediators. Inasmuch as the effect remained significant, it seems that perceived effectiveness of active distraction, social support, and emotional expression might have served as partial mediators in the effect between negative automatic thoughts and depressive symptoms. Examination of the 95% confidence limits for the mediated paths through perceived effectiveness of active distraction (C.I.: - .001, .003), social support (C.I.: .000, .004), and emotional expression (C.I.: .009, .023) further indicated that perceived effectiveness of emotional expression uniquely served as a mediator in the relation between negative automatic thoughts and depressive symptoms.

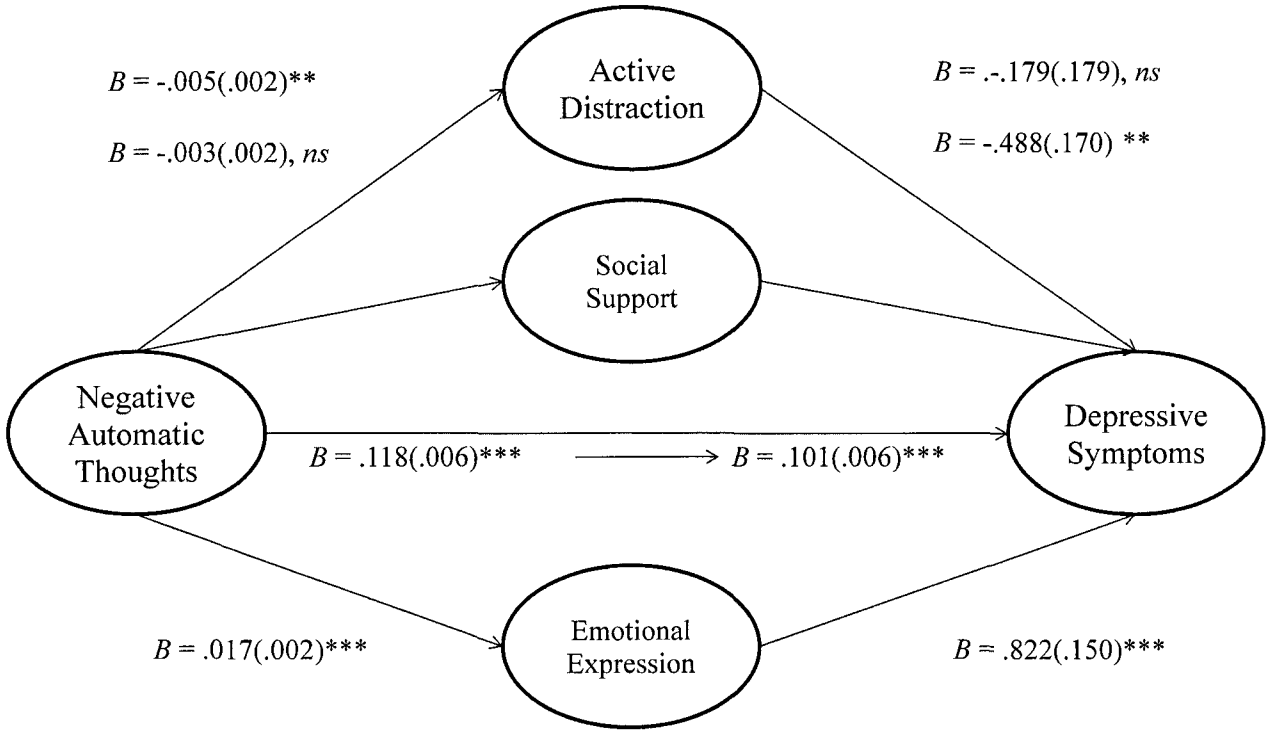
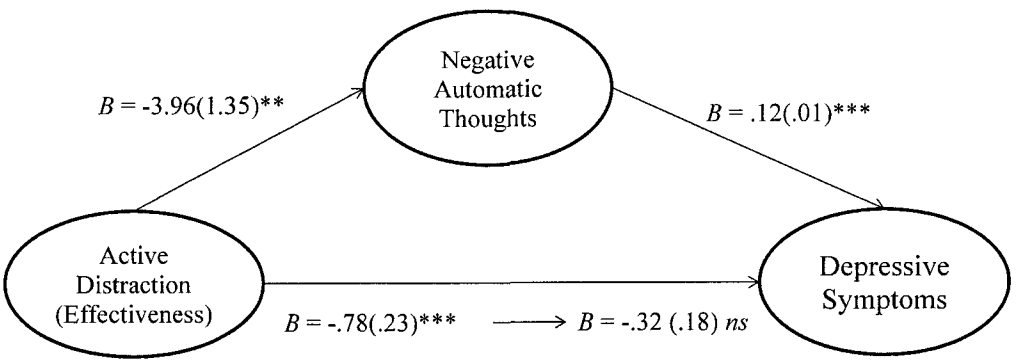


Figure 5. *The mediating effects of perceived coping effectiveness on the relationship between the negative automatic thoughts and depressive symptoms. Coefficients are the unstandardized path coefficients, with standard errors indicated in brackets. C.I. represents the 95% confidence interval around the mediated path coefficient.*

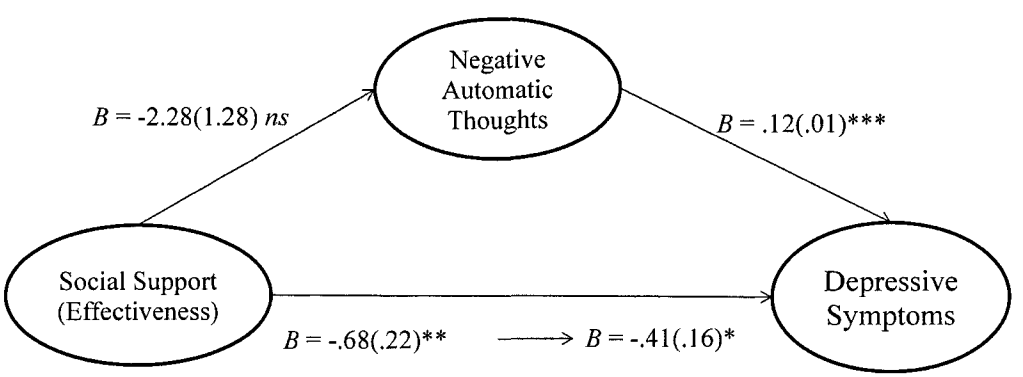
Again, given the correlational nature of these data, alternative mediation models were assessed. For instance, although it was hypothesized that negative thoughts would influence evaluations of coping effectiveness, the possibility that continual inappropriate coping assessment may reinforce negative thoughts was also feasible. As seen in Figures 6 to 8, the direct relations between perceived effectiveness of active distraction, social support seeking, and emotional expression and depressive symptoms were significant. As indicated by the 95%

confidence intervals through the mediated paths, when negative automatic thoughts was entered as a mediator, the relations between perceived effectiveness of active distraction (C.I.: -.079, -.012) and emotional expression (C.I.: .26, .91) and depressive symptoms were all significantly reduced. Negative automatic thoughts did not, however, mediate the relation between perceived effectiveness of social support seeking (C.I.: -.62, .05) and depressive symptoms.



$R^2 = .46$, $F(2, 468) = 199.35, p < .001$
Note: *** $p < .001$; ** $p < .01$

Figure 6. *Alternative Mediation Model considering Negative Automatic Thoughts as a Mediator between Perceived Effectiveness of Active Distraction and Depressive Symptoms.*



$R^2 = .46$, $F(2, 468) = 202.13, p < .001$
Note: *** $p < .001$; ** $p < .01$; * $p < .05$

Figure 7. *Alternative Mediation Model considering Negative Automatic Thoughts as a Mediator between Perceived Effectiveness of Social Support Seeking and Depressive Symptoms.*

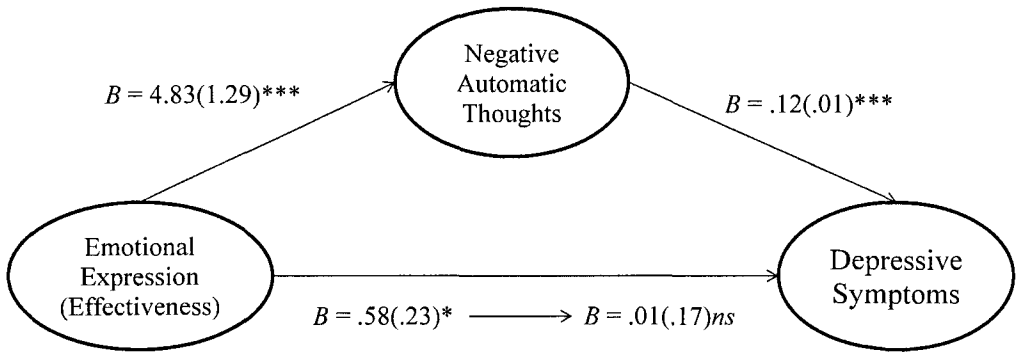


Figure 8. *Alternative Mediation Model considering Negative Automatic Thoughts as a Mediator between Perceived Effectiveness of Emotional Expression and Depressive Symptoms.*

The Relation between Negative Automatic Thoughts, Coping Endorsement, and Depressive Symptoms.

To determine whether the presence of negative automatic thoughts was related to the endorsement of specific coping strategies, a multiple regression analysis was conducted in which the frequency of negative automatic thoughts was regressed onto the 13 coping strategies comprising the SCOPE. As expected, the presence of negative automatic thoughts was significantly associated with coping endorsement, $F(13, 455) = 19.48$, $p < .001$. Specifically, increased frequency of negative automatic thoughts was related to increased endorsement of emotion-focused coping strategies, including rumination, emotional expression, other-blame, self-blame, emotional containment, passive resignation, and wishful thinking (Table 12). In contrast, problem-focused coping strategies were unrelated to the presence of negative automatic thoughts, with the exception of active distraction, which was associated with decreased endorsement of active distraction.

Table 12. *Multiple Regression Analysis Assessing the Relations between Negative Automatic Thoughts and Coping Endorsement.*

Strategy	*r*	*β*	R^2
Problem Solving	-.07	.05	.36***
Cognitive Restructuring	-.02	-.12*	
Active Distraction	-.11*	-.11*	
Cognitive Distraction	.21**	.06	
Rumination	.45**	.16**	
Humour	-.03	-.02	
Social Support	-.03	-.13**	
Emotional Expression	.43**	.22***	
Other Blame	.26**	-.01	
Self Blame	.39**	.16***	
Emotional Containment	.32**	.04	
Passive Resignation	.27**	.05	
Wishful Thinking	.44**	.20***	

*** $p < .001$; ** $p < .01$; * $p < .05$.

To explore the mediating role of coping endorsement in the relation between negative automatic thoughts and depressive symptoms, Preacher and Hayes' (2004, 2008) method for

assessing multiple mediation, using 5000 bootstrap iteration and 95% bias and accelerated confidence intervals, was employed. To determine which coping strategies would be treated as potential mediators, a multiple regression analysis was conducted to identify which coping strategies were related to depressive symptoms. As illustrated in Table 13, the endorsement of coping strategies was significantly related to depressive symptoms, $F(13, 465) = 23.74$, $p < .001$. Specifically, heightened depressive symptoms were associated with a reduction on the use of problem-focused coping strategies including, problem-solving, cognitive restructuring, active distraction, and social support. Conversely, heightened depressive symptoms were associated with increased utilization of emotion-focused coping methods including, rumination, emotional expression, other-blame, self-blame, emotional containment, passive resignation, and wishful thinking. Based on the results of the previous two regression analyses, the coping strategies that were significantly correlated to both negative automatic thoughts and depressive symptoms were selected as potential mediators.

Table 13. *Multiple Regression Analysis Assessing the Relations between Depressive Symptoms and Coping Endorsement.*

Strategy	*r*	*β*	R^2
Problem Solving	-.21**	-.08	.40***
Cognitive Restructuring	-.13**	-.16***	
Active Distraction	-.23**	-.20***	
Cognitive Distraction	.18**	.08	
Rumination	.40**	.15**	
Humour	-.06	.04	
Social Support	-.09*	-.10*	
Emotional Expression	.43**	.27***	
Other Blame	.17**	-.08	
Self Blame	.35**	.14**	
Emotional Containment	.32**	.11*	
Passive Resignation	.21**	.02	
Wishful Thinking	.37**	.14**	

*** $p < .001$; ** $p < .01$; * $p < .05$.

As shown in Figure 9, the direct relation between negative automatic thoughts and depressive symptoms was significant, but this effect was significantly reduced when the coping

strategies where entered as mediators. Inasmuch as the effect remained significant, it seems that the endorsement of particular coping strategies might have served as partial mediators in the effect between negative automatic thoughts and depressive symptoms. Examination of the 95% confidence limits for the mediated paths through the endorsement of coping strategies further indicated that active distraction (C.I.: .001, .008), emotional expression (C.I.: .006, .018), and emotional containment (C.I.: .002, .011) uniquely served as mediators in the relation between negative automatic thoughts and depressive symptoms.

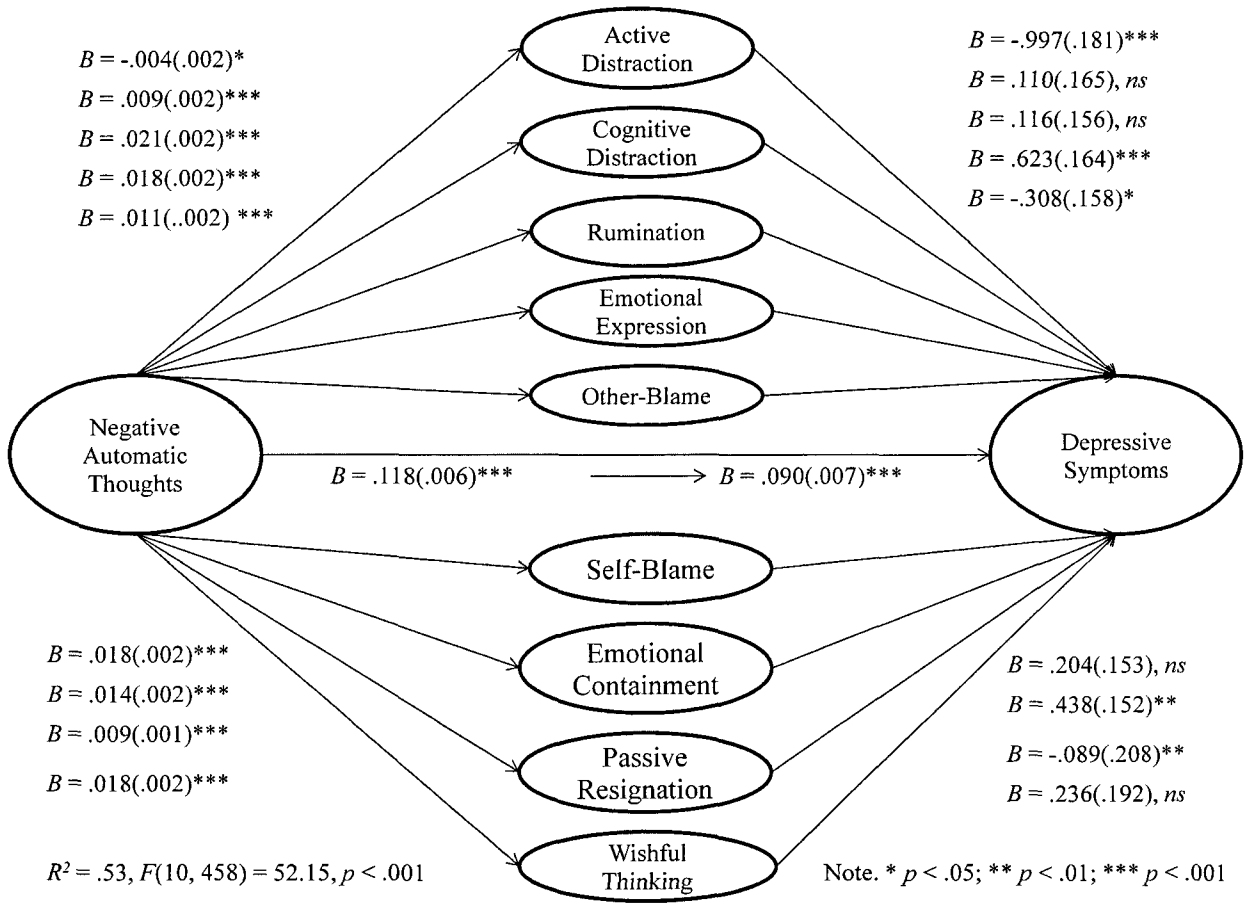


Figure 9. *The mediating effects of coping endorsement on the relationship between the negative automatic thoughts and depressive symptoms. Coefficients are the unstandardized path coefficients, with standard errors indicated in brackets. C.I. represents the 95% confidence interval around the mediated path coefficient.*

Although it was hypothesized that increased frequency of negative automatic thoughts would prompt the deployment of inappropriate coping strategies, leading to depressive symptoms, the alternative may also be true. That is, continual engagement in ineffective coping strategies may trigger, or reinforce already present negative thoughts, which may lead to the maintenance of depressive symptoms. Based on this possibility, alternate mediations models

were tested. As presented in Figures 10 to 18, the direct relations between the engagement in specific coping strategies (i.e., active distraction, cognitive distraction, rumination, emotional expression, other-blame, self-blame, emotional containment, passive resignation, and wishful thinking) and depressive symptoms was significant, but these effects were all significantly reduced when negative automatic thoughts was entered as a mediator. To be sure, examination of the 95% confidence limits for the mediated paths confirmed that negative automatic thoughts mediated the relation between active distraction (C.I.: .-.68, -.06), cognitive distraction (C.I.: .35, .90), rumination (C.I.: .74, 1.25), emotional expression(C.I.: .74, .1.30), other-blame (C.I.: .43, 1.03), self-blame (C.I.: .71, 1.29), emotional containment (C.I.: .55, 1.10), passive resignation (C.I.: .64, 1.37), and wishful thinking (C.I.: .83, 1.48), and depressive symptoms. Thus, it seems that the presence of negative automatic thoughts might have served as partial mediator in the relations between particular coping strategies and depressive symptoms.

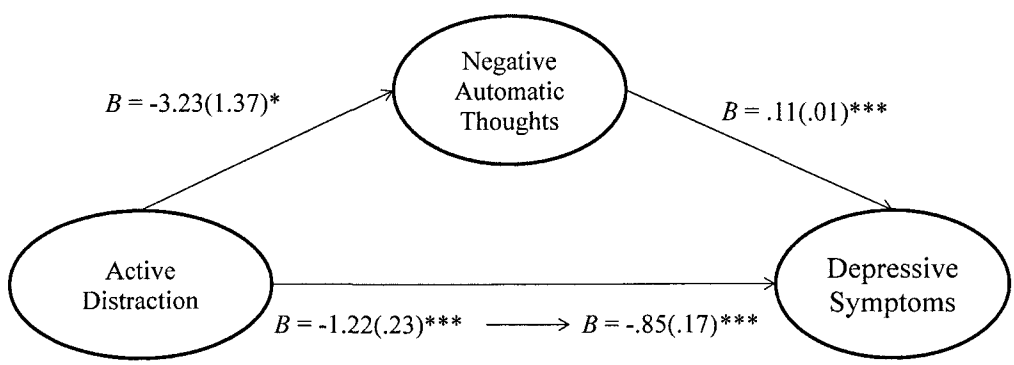
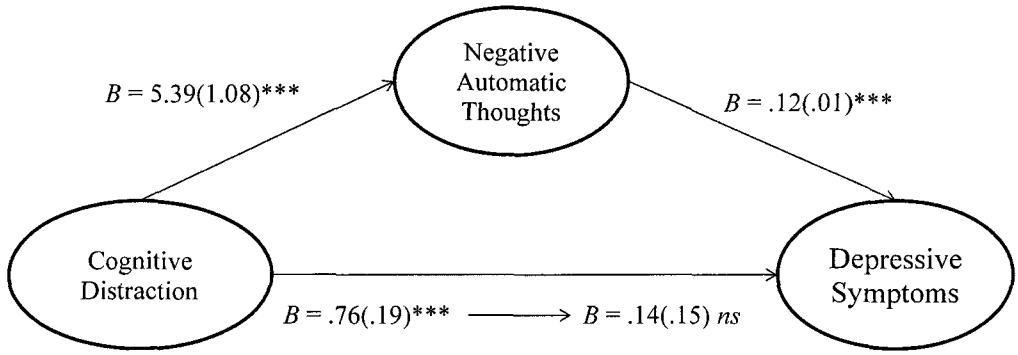
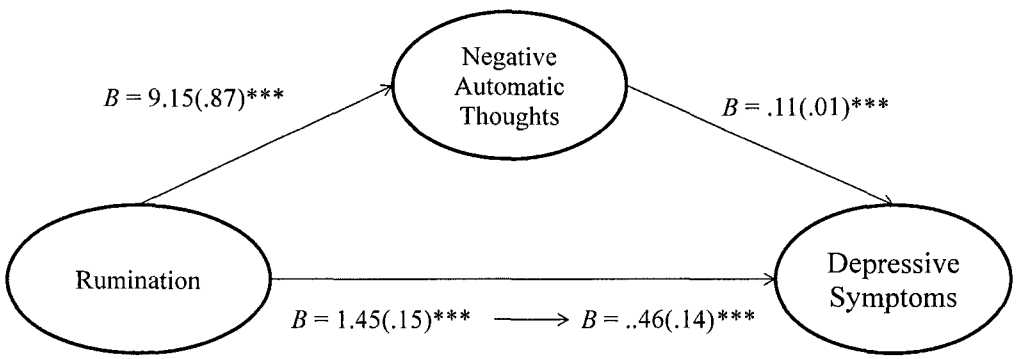


Figure 10. *Alternative Mediation Model considering Negative Automatic Thoughts as a Mediator between Active Distraction and Depressive Symptoms.*



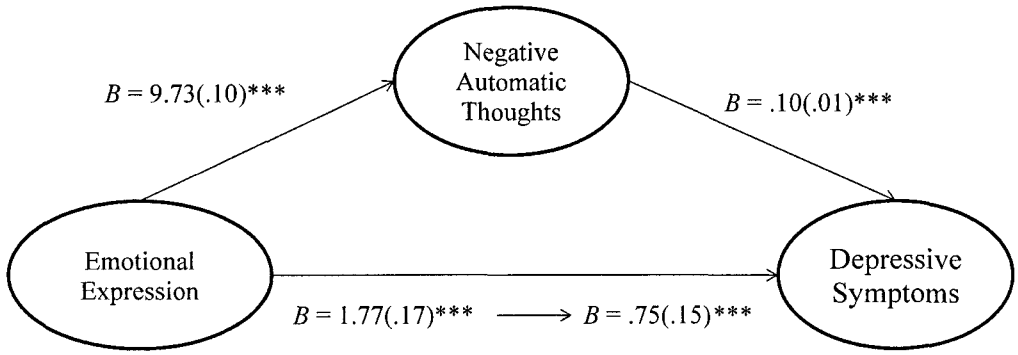
$R^2 = .46$, $F(2, 468) = 197.14, p < .001$
Note: *** $p < .001$

Figure 11. *Alternative Mediation Model considering Negative Automatic Thoughts as a Mediator between Cognitive Distraction and Depressive Symptoms.*



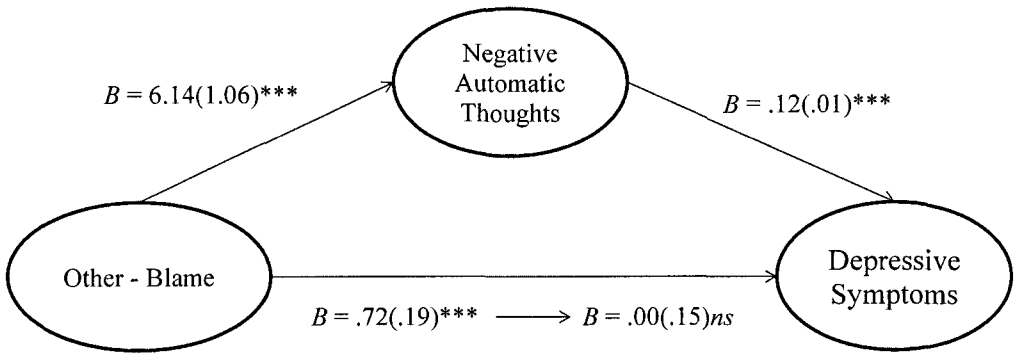
$R^2 = .47$, $F(2, 468) = 206.96, p < .001$
Note: *** $p < .001$

Figure 12. *Alternative Mediation Model considering Negative Automatic Thoughts as a Mediator between Rumination and Depressive Symptoms.*



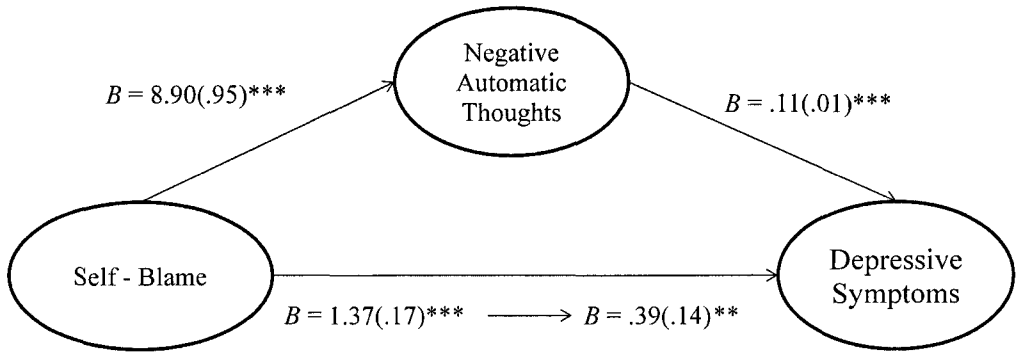
$R^2 = .48$, $F(2, 468) = 219.46, p < .001$
Note: *** $p < .001$

Figure 13. *Alternative Mediation Model considering Negative Automatic Thoughts as a Mediator between Emotional Expression and Depressive Symptoms.*



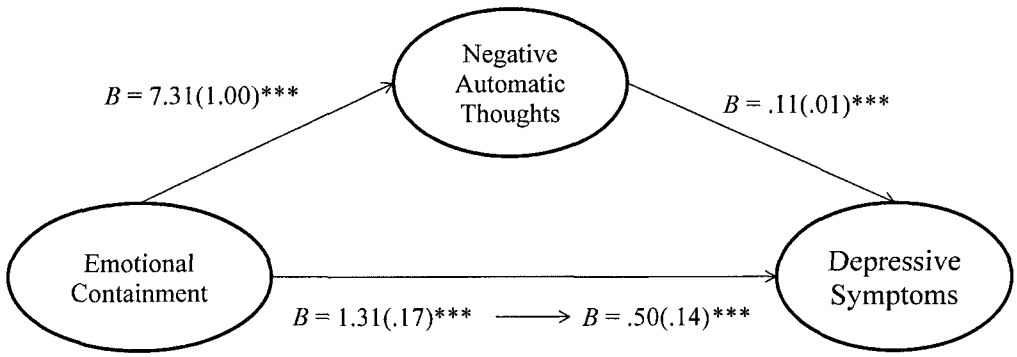
$R^2 = .46$, $F(2, 468) = 196.31, p < .001$
Note: *** $p < .001$

Figure 14. *Alternative Mediation Model considering Negative Automatic Thoughts as a Mediator between Other-Blame and Depressive Symptoms.*



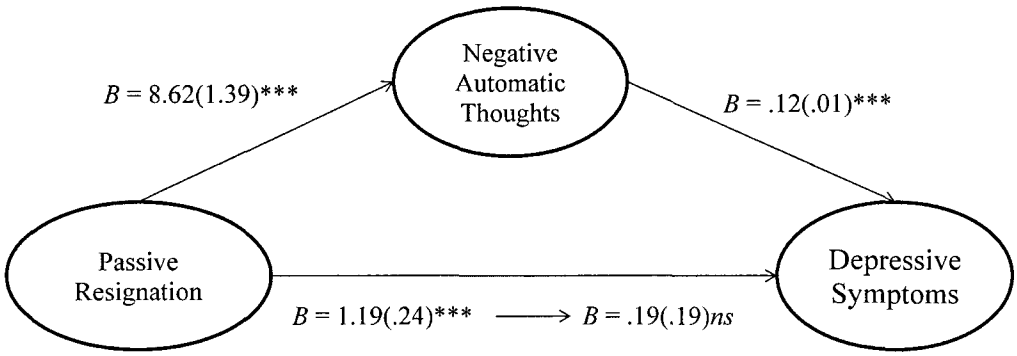
$R^2 = .46$, $F(2, 468) = 202.87$, $p < .001$
Note: *** $p < .001$; ** $p < .01$

Figure 15. *Alternative Mediation Model considering Negative Automatic Thoughts as a Mediator between Self-Blame and Depressive Symptoms.*



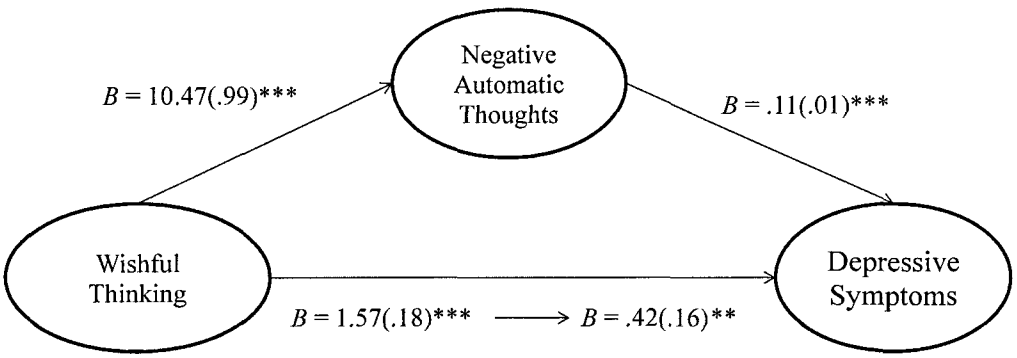
$R^2 = .47$, $F(2, 466) = 204.20$, $p < .001$
Note: *** $p < .001$

Figure 16. *Alternative Mediation Model considering Negative Automatic Thoughts as a Mediator between Emotional Containment and Depressive Symptoms.*



$R^2 = .46$, $F(2, 468) = 197.22, p < .001$
Note: *** $p < .001$

Figure 17. *Alternative Mediation Model considering Negative Automatic Thoughts as a Mediator between Passive Resignation and Depressive Symptoms.*



$R^2 = .46$, $F(2, 468) = 196.32, p < .001$
Note: *** $p < .001$; * $p < .05$

Figure 18. *Alternative Mediation Model considering Negative Automatic Thoughts as a Mediator between Wishful Thinking and Depressive Symptoms.*

Negative Automatic Thoughts in Relation to Negative Life Events, Early Life Trauma, and Depressive Symptoms.

The data presented thus far suggest that differences in the way individuals appraise various events, in addition to, the way they evaluate the effectiveness of coping strategies were

associated with symptoms of depression. Furthermore, the presence of persistent negative automatic thoughts was associated with appraisal processes, perceived coping effectiveness, and the endorsement of particular coping strategies. Thus, given the relationship between automatic thoughts on stress related processes, it was expected that negative automatic thoughts would act as a vulnerability factor for depressive affect in the presence of negative life events. Using hierarchical regression analysis, standardized negative life events and negative automatic thoughts scores were entered on the first step and the interaction between negative life events and negative automatic thoughts was entered in the second step. As seen in Table 14 and Figure 19, the hypothesized interaction was not significant. Thus, while negative life events were positively correlated with depressive symptoms, this effect was not dependent on the frequency of negative automatic thoughts[5].

Table 14. *Hierarchical Regression Analysis Assessing the Moderated Role of Negative Automatic Thoughts in the Relation between Negative Life Events and Depressive Symptoms.*

	B	*SE B*	R^2_{change}
Step 1			
Negative Life Events	.94*	.15	
Negative Automatic Thoughts	2.48*	.14	.501*
Step 2			
NLE X NAT	-.10	.12	.001

Note. * $p < .001$; NLE X NAT = Negative Life Events*Negative Automatic Thoughts

[5] Additional moderation analyses were also conducted using appraisals, perceived coping effectiveness, and coping endorsement. However, as the results were nearly identical and did not provide any unique findings, they were not included in the present study.

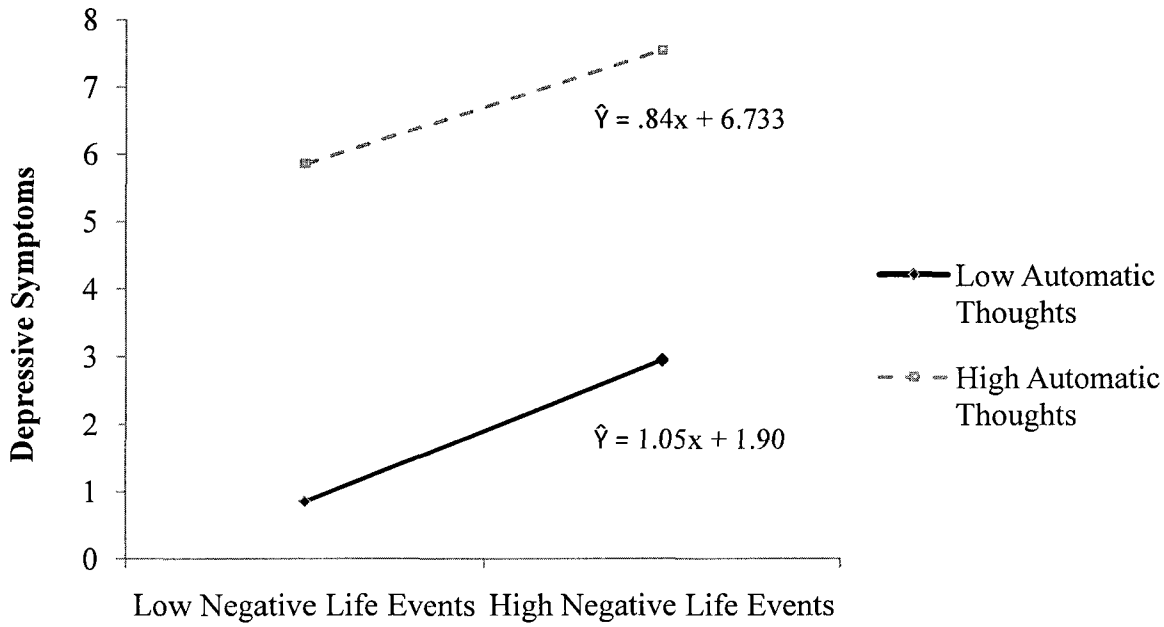


Figure 19. *Hierarchical Regression Assessing the Potential Moderating Effect of Negative Automatic Thoughts on the Relation between Negative Life Events (+- 1SD) and Depressive Symptoms.*

To determine whether negative automatic thoughts mediated the relation between early life trauma and depressive symptoms, Preacher and Hayes' (2004, 2008) procedures for assessing mediation were followed. Specifically, this approach consists of using bootstrap sampling distribution and the construction of confidence intervals to evaluate the direct, indirect (i.e., through negative automatic thoughts), and total effects of the predictor variable (i.e., early life trauma). This analysis was conducted with 5000 bootstrap samples and 95% bias confidence intervals. As illustrated in Figure 20, the significant relation between early life trauma and depressive symptoms was no longer evident when negative life events were included as a mediator. The 95% bias corrected confidence intervals showed that the mediated path was

significant (CI: .03, .16), suggesting that negative automatic thoughts fully mediated the relation between early life trauma and depressive symptoms[6].

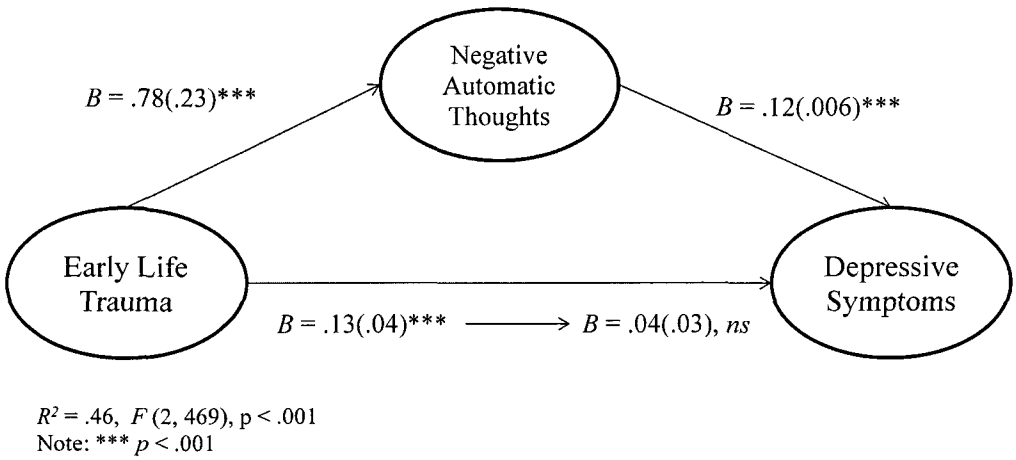


Figure 20. *Negative Life Events as a Mediator between Early Life Trauma and Depressive Symptoms.*

Discussion

Primary and Secondary Appraisals in Relation to Depression

As described by the transactional model of stress and coping, the impact of stressful circumstances on psychological well-being, including the emergence of depressive pathology, may, in part, be contingent on appraisal processes (Lazarus & Folkman, 1984). Thus, the initial aim of the present study was to examine the relation between specific dimensions of appraisals

[6] Additional mediation analyses were also conducted with appraisals, perceived coping effectiveness, and coping endorsement to determine if these factors mediated the relation between early life trauma and depressive symptoms. Interestingly, however, none of these factors were related to early life trauma.

(i.e., threat, control, and outcome) and symptoms of depression. As expected, negative appraisal tendencies, comprising increased perceptions of threat, decreased perceived controllability and increased anticipation of negative outcomes, were associated with heightened depressive symptoms. These results are consistent with previous reports (e.g., Abramson et al, 1989; Folkman & Lazarus, 1986; Seligman & Maier, 1967) which propose that negative appraisal tendencies may promote a sense of helplessness (and hopelessness), and elicit negative emotional responses (e.g., sadness, anger, and hostility) that, over time, may lead to the development of depressive symptoms.

In addition to the relation between appraisals and depressive symptoms, it was of particular interest to determine whether this relationship was consistent across different situations or unique to specific types of situations. As hypothesized, although negative appraisals of a range of situations were, to various extents, aligned with heightened depressive symptoms, appraisals revolving around *relationship* situations were most prominent in this regard. These findings are consistent with reports (e.g., Mazure, 1998; Paykel & Cooper, 1992; Paykel, 2003) indicating that stressors within relationship/interpersonal life domains, such as death of a loved one or romantic breakup, are particularly aligned with the emergence of depressive symptoms. From this perspective, the greater sensitivity to, and increased frequency of relationship/interpersonal stressors among individuals who are depressed, or experiencing subthreshold depressive symptoms, may be rooted in a negative appraisal bias towards such events. Indeed, these finding are aligned with Coyne's (1976) interpersonal model of depression which describes a self-perpetuating cycle of interpersonal dysfunction and depression. For example, depressed individuals seek reassurance of their worth from their relationship partners, but then deny the encouragement that they receive, thereby eliciting negative affect and rejection

by their partners. This interpersonal disruption then perpetuates and exacerbates depression. In addition to situations involving relationships, negative appraisals concerning *academic* concerns were also uniquely associated with heightened depressive symptoms. This finding is not surprising given that the present study comprised university students. Thus, the role of "university student" may be personally significant or meaningful to this population in terms of self identity and self-esteem. From this perspective, stressors within this life domain, especially if dealt with inappropriately, may readily trigger negative emotions (e.g., guilt, humiliation and shame), ultimately promoting depressive symptoms.

As previously outlined, the appraisal process involves primary appraisal (e.g., characteristics of the situation) and secondary appraisal (e.g., individual's perceived ability to effectively cope with the situation). In this regard, it was hypothesized that, in addition to negative appraisal tendencies (i.e., primary appraisal), individuals with heightened symptoms of depression would also exhibit a maladaptive assessment of their coping abilities and resources (i.e., secondary appraisal), in which they evaluate problem-focused coping strategies as *less* effective and emotion-focused strategies as *more* effective in dealing with potentially stressful circumstances. Consistent with predictions, as the severity of depressive symptoms increased, the perceived effectiveness of problem-focused coping strategies, such as problem solving, cognitive restructuring, active distraction, humour and social support *decreased*, whereas, greater perceived effectiveness of emotional expression (an emotion-focused strategy) *increased.*

As will be recalled, the appraisal process is inherently relational. That is, appraisals reflect an evaluation of what the stressful circumstances imply for well-being *in relation* to the individual's evaluations of their coping abilities and resources (Smith & Lazarus, 1990). In line with this formulation, it was hypothesized that perceived coping effectiveness, which reflects

secondary appraisal, would influence the way individuals appraise various types of ambiguous situations. In general, individuals who reported problem-focused coping strategies, such as problem-solving, active distraction, humour and social support, to be effective coping strategies appraised various types of ambiguous situations as less threatening, more controllable, and anticipated a less negative outcome. Conversely, individuals who reported emotion-focused strategies (i.e. emotional expression, other- and self-blame, emotional containment and wishful thinking) to be effective coping strategies, appraised various types of ambiguous events as more threatening, yet, surprisingly, more controllable. It is unclear why individuals who think emotion-focused coping strategies are effective also think they have more control over events. However, this puzzling finding may represent part of the disturbed secondary appraisal of depressed individuals.

Perceived effectiveness of emotion-focused strategies was unrelated to outcome appraisal, with the exception of passive resignation, which was associated with anticipation of less negative outcomes. This relationship is clearly counterintuitive. However, these findings might be relevant as to why individuals who present with symptoms of depression engage in maladaptive or inappropriate coping strategies when faced with stressful circumstances (Matheson & Anisman, 2003). Essentially, the increased reliance on emotion-centered coping strategies over problem-oriented methods may be rooted in the fact that individuals with heightened depressive symptoms simply believe that active coping strategies (i.e., strategies aimed at altering or alleviated any negative repercussions associated with a stressor) are ineffective ways of dealing with stressful experiences and, as a result, engage in more passive forms of coping (i.e., strategies intended to manage negative emotional responses resulting from a stressor).

Taken together, the present results suggest that individuals with heightened depressive symptoms exhibit a negative appraisal bias towards a variety of potentially stressful situations, particularly those revolving around relationships and academics. Additionally, increased severity of depressive symptoms is also associated with maladaptive evaluations of the effectiveness of coping options. Thus, not only do these individuals appraise external events in a negative light, but they also evaluate their abilities to contend with stressors in a maladaptive manner. Moreover, this maladaptive assessment of coping may lead the individual to engage in inappropriate or ineffective coping strategies that, in turn, may fuel negative appraisals and depressive symptoms. What remains unclear, however, is what sort of factors contribute to these negative appraisals and coping evaluations, and how they emerge in the first place.

Negative Automatic Thoughts in Relation to Appraisals, Coping, and Depression

Cognitive models of depression suggest that an individual's negative beliefs systems and maladaptive information processing heighten vulnerability to depression when faced with stressful life circumstances. Although these negative automatic thoughts may directly influence the emergence and persistence of depressive symptoms, it is also believed that they may operate through their influence on appraisal and coping processing of personally relevant life experiences (Alloy et al, 1999). As hypothesized, in the present study negative automatic thoughts where associated with negative appraisal tendencies, inappropriate assessment of coping, the engagement of ineffective coping strategies, and, ultimately, heightened depressive symptoms. Specifically, increased frequency of negative automatic thoughts was related to increased perceptions of threat, decreased perceived control, and increased anticipation of negative outcomes of ambiguous situations. Moreover, the three dimensions of appraisal served as significant partial mediators in the relation between automatic thoughts and depressive

symptoms. Although the present results indicated that the outcome appraisal dimension uniquely served as a mediator in this regard, it should be noted that the three dimensions of appraisal were highly correlated, and this may have precluded any additional unique mediating effects of threat and control appraisals. It should also be underscored that, given the correlational nature of the present study, the alternative may also be true. That is, as supported by the results of alternative mediation models, negative automatic thoughts may also mediate the relationship between appraisals and depressive symptoms. For example, persistent negative appraisals may reinforce negative thoughts concerning the self which, in turn, may promote depressive symptoms.

In the case of perceived coping effectiveness, as with primary appraisals, increased frequency of negative automatic thoughts was associated with decreased effectiveness of active distraction and social support, and increased effectiveness of emotion –focused coping strategies including, emotional expression, emotional containment, other-blame, and wishful thinking. Additionally, when the assessed effectiveness of coping strategies common to negative automatic thoughts and depressive symptoms (i.e., active distraction, social support, and emotional expression) were entered as mediators, a significant partial mediating effect was present, with emotional expression exhibiting the only unique mediating effect. Again, as was the case with primary appraisals, the alternative may also be plausible. Specifically, as indicated by the results of alternate mediation models, negative automatic thoughts may also mediate the relation between perceived coping effectiveness and depressive symptoms. For instance, inappropriate assessment of coping efficacy may fuel negative automatic thoughts, and this relation may provoke heightened depressive symptoms.

Finally, as negative automatic thoughts influenced the appraisal process, and the selection of specific coping strategies follows appraisals (Lazarus & Folkman, 1984), it was of interest to

determine whether negative automatic thoughts were associated with coping endorsement, and whether the engagement of certain coping strategies mediated the relation between negative automatic thoughts and depressive symptoms. As expected, increased frequency of negative automatic thoughts was associated with *decreased* endorsement of problem-focused coping strategies, specifically, cognitive restructuring, active distraction, and social support seeking, in addition to, *increased* engagement in emotion-focused coping, including rumination, emotional expression, self-blame, and wishful thinking. Furthermore, the coping strategies common to negative automatic thoughts and depressive symptoms (i.e., active distraction, cognitive distraction, rumination, emotional expression, other- and self-blame, emotional containment, passive resignation, and wishful thinking) were found to have a significant mediating effect. Although the present results indicated that only active distraction, emotional expression, and emotional containment uniquely served in this capacity, it is the case that the selection and endorsement of coping strategies do not occur in isolation of one another. Rather, coping strategies are likely to operate in conjunction with one another and are typically deployed concurrently or sequentially (Matheson & Anisman, 2003; Tennen et al, 2000). Finally, although it was hypothesized in the present investigation that negative automatic thoughts would influence the selection and endorsements of certain coping strategies, the alternative possibilities to this path appeared to be viable. Specifically, continual engagement in inappropriate or ineffective coping strategies may promote negative self statements, and this relation may then lead to the development of depressive symptoms.

As a whole, the results of the current investigation suggest that the presence of negative automatic thoughts negatively influence the appraisal and coping processes. To be sure, negative automatic thoughts are associated with negative appraisals of the characteristics of various

situations, inappropriate assessment of the effectiveness of a range of coping strategies, the endorsement of maladaptive coping methods, and ultimately heightened depressive symptoms. Thus, given the impact of negative automatic thoughts on stress-related processes, the final questions become how do these negative automatic thoughts function in the presence of negative life events? In other words, are individuals who frequently experience these negative thoughts more vulnerable to the effects of negative life events than those who do not have such thoughts? And, finally, how to do these negative automatic thoughts emerge in the first place?

Negative Automatic Thoughts in Relation to Negative Life Experiences and Depression

Stressful (or negative) life events have frequently been associated with the onset and progression of depression, yet not all individuals who are exposed to such experiences develop this pathology (Hammen, 2005; Kendler, Karkowski & Prescott, 1999; Paykel, 2001; 2003; Mazure, 1998). In this respect, differences in the way individuals appraise and cope with stressful experiences may be a fundamental factor that confers either vulnerability, or resilience, to the impacts of such experiences on depressive pathology. Based on the findings of the present study, negative appraisals and ineffective coping appear to be related to some form of cognitive vulnerability to depression, such as the presence of negative automatic thoughts. Thus, the final aim of the present study was to examine the relationship between negative life events and negative automatic thoughts. In this regard, it was observed that the impact of negative life events and negative automatic thoughts were additively related to depression scores. That is, individuals who reported a high frequency of negative automatic thoughts and have experienced adverse life events in the past year also reported the highest levels of depressive symptoms, compared to those individuals who reported less frequent negative thoughts and fewer negative life events.

Lastly, given the strong relationship between negative automatic thoughts and depressive affect, the final objective of the present investigation was to determine whether these characteristics were tied to early life experiences. In this regard, it has been documented that a history of negative life events, particularly early life trauma, increases the risk for depression throughout the lifespan (Burbach & Borduin, 1986; Goodman, 2002; Hammen, 1991; Kaslow, Deering, & Racusin, 1994), and that one pathway through which depressive features evolve may be through the development of cognitive vulnerability (Hankin et al, 2009; Alloy, 2001; Alloy et al, 1999). In light of this suggestion, it was hypothesized that a history of early life trauma (e.g., childhood abuse, maltreatment, and parental loss) would lead to the emergence of negative automatic thoughts which, in turn, would lead to increased risk for depression. As expected, it was observed in the present study that greater exposure to early life trauma was predictive of increased depressive symptoms, and this relationship was fully mediated by negative automatic thoughts. Although the present data are correlational, and hence not allowing causal conclusions, they are consistent with previous reports (Beck, 2008; Rose and Abramson, 1992; Alloy et al, 1999) suggesting that negative life events in childhood may contribute to the formulation of negative cognitions, including negative automatic thoughts or self-statements, and these cognitive vulnerabilities may then become activated by later adverse events in adolescence or adulthood, thus promoting the development of depressive pathology.

Limitations and Conclusions

Although the present study provided some indications of the relations between negative automatic thoughts, stress-related processes, and depression, this study was not without its limitations. Given that these findings were correlational, a significant limiting factor of the present study was that causal conclusions could not be made. For example, it cannot be

concluded that negative appraisals and dysfunctional assessment and engagement in coping strategies are causally related to the elevated depressive symptoms. Likewise, the findings in the present study suggest that increased frequency of negative automatic thoughts contribute to negative appraisals and poor coping choices which, in turn, lead to heightened depressive symptoms. However, as supported by the alternate mediation models, other causal paths between these variables are possible. That is, persistent negative appraisals and inappropriate coping may activate, or reinforce, negative cognitions and this may provoke depressive symptoms. Given the dynamic nature of the appraisal and coping processes, it is possible that these varied factors are reciprocally involved with one another. For example, the presence of negative automatic thoughts may contribute to a negative appraisal and coping style which, in turn, further reinforcing these negative thoughts, leading to a deleterious cognitive and behavioural cycle that ultimately provokes initial depressive symptoms or exacerbates already present symptoms.

The second major limitation of the current study is that it was retrospective. This is particularly significant as participants were asked to report the frequency of early life trauma and negative life events over the past year. Given that mood may have influenced memory, individuals who exhibited heightened symptoms of depression may have over-reported the frequency and impact of both early trauma and negative life events. This may have been especially been the case in the last two analyses. For example, individuals who reported high frequency of negative automatic thoughts and/or increased depressive symptoms may have also reported a relatively high frequency of negative life events in the past year. Thus, it was impossible to infer whether an additive or interaction effect exists with respect to the relationship between negative thoughts and negative events on depressive symptoms. A similar confound could have been present in the final analysis, which examined the mediating role of negative

automatic thoughts in the relation between early life trauma and depressive symptoms. In this respect, individuals who reported a high frequency of negative automatic thoughts may have also over-reported the amount of early life trauma they have experienced. Despite these problems of interpretation, the findings of the present study are consistent with previous studies that have employed structured clinical interviews of depression and life events.

The aforementioned caveats notwithstanding, the findings of the present investigation help elucidate several of the cognitive and behavioural processes involved in depressive pathology. Consistent with previous findings, depression or subsyndromal depression appears to be associated dysfunctional appraisal and coping processes. Additionally, within a university population, these negative appraisal biases seem to be particularly pronounced in situations revolving around relationships and academics. Although many factors may influence appraisals and coping, the presence of negative automatic thoughts appears to be important in distorting the processes and heightening the risk for depression. Additionally, the presence of such negative cognitions on promoting depressive symptoms may be especially important if the individual is experiencing a significant amount of negative life events. Finally, although a number of variables (e.g., genetic) may contribute the formulation of negative cognitions, exposure to early life trauma may be particularly significant.

References

Abramson LY, Alloy LB, Hankin BL, Haeffel GJ, MacCoon DG & Gibb B. (2002). Cognitive vulnerability-stress models of depression in a self-regulatory and psychobiological context. In I. H. Gotlib & C. L. Hammen (Eds.), *Handbook of depression* (pp. 268–294). New York: Guilford.

Abramson LY, Alloy LB & Hogan ME (1997). Cognitive/personality subtypes of depression: Theories in search of disorders. *Cognitive Therapy and Research*; 21, 247-265.

Abramson LY, Metalsky GI & Alloy LB (1989). Hopelessness depression: A theory-based subtype of depression. *Psychological Review*; *96,* 358–372.

Adlaf, E. M., Gliksman, L., Demers, A., & Newton-Taylor, B. (2001). The prevalence of elevated psychological distress among Canadian undergraduates: Findings from the 1998 Canadian Campus Survey. *Journal of American College Health*, 50, 67–72.

American Psychiatric Association (2000). Diagnostic and Statistical Manual of Mental Disorders (Revised 4th ed.), Washington, DC.

Anisman H, Merali Z & Hayley S (2008). Neurotransmitter, peptide and cytokine processes in relation to depressive disorder: comorbidity between depression and neurodegenerative disorders. *Progress in Neurobiology;* 85, 1-74.

Anisman H & Matheson K (2003). Stress, depression, and anhedonia: caveats concerning animal models. *Neuroscience and Biobehavioural Reviews*; 29, 525-546.

Anisman H, Zalcman S & Zacharko RM (1993). The impact if stressors on immune and central neurotransmitter activity; bidirectional communication. *Reviews in Neuroscience;* 4, 174-180.

Beck AT (1987). Cognitive models of depression. *Journal of Cognitive Psychotherapy*: *An International Quarterly*; *1,* 5–37.

Beck AT, Weissman A, Lester D & Trexler L (1974). The measurement of pessimism: The Hopelessness Scale. *Journal of Consulting and Clinical Psychology*, 42, 861-865.

Beck, A. T. (1967). *Depression: Clinical, experimental, and theoretical aspects.* New York: Harper& Row.

Bolger N, DeLongis A, Kessler RC & Wethington E (1989a). The contagion of stress across multiple roles. *Journal of Marriage and the Family, 51,* 175-183.

Bolger N, DeLongis A, Kessler RC & Wethington E (1989b). The microstructure of daily role-related stress in married couples. In J. Eckenrode & S. Gore, *Crossing the boundaries: The transmission of stress between work and family* (pp. 95-115). New York: Plenum Press.

Bonde JP (2008). Psychosocial factors at work and risk of depression: a systematic review of the epidemiological evidence. *Journal of Occupational and Environmental Medicine*; 65(7), 438-445.

Bottomley A (1998). Depression in cancer patients: a literature review. *European Journal of Cancer Care*; 7(3), 181-191.

Bowen K (2000). Child abuse and domestic violence in families of children seen for suspected sexual abuse. *Clinical Pediatrics*; 39, 33–40.

Breier A (1989). Experimental approaches to human stress research: Assessment of neurobiological mechanisms of stress in volunteers and psychiatric patients. *Biological Psychiatry;* 26, 438-462.

Broadhead WE, Blazer DG, George LK & Tse LK (1990). Depression, disability days and days lost from work in a prospective epidemiological survey. *Journal of the American Medical Association*; 264, 2524-2528.

Bromet EJ, Dew MA & Parkinson DK (1990). Spillover between work and family: A study of blue-color working wives. *Stress between work and family*; 133-151, New York: Plenum.

Brown GW, Harris TO & Hepworth (1995). Loss, humiliation and entrapment among women developing depression: a patient and non-patient comparison. *Psychological Medicine*; 25(1), 7-21.

Brown GW & Harris TO (1978). *Social Origins of Depression.* London: Free Press

Bruce ML & Hoff RA (1994). Social and physical health risk factors for first-onset major depressive disorder in a community sample. *Social Psychiatry and Psychiatric Epidemiology;* 29, 165–71.

Burbach D & Borduin C (1986). Parent–child relations and the etiology of depression: A review of methods and findings. *Clinical Psychology Review*; *6,* 133–153.

Buss, A. H., & Perry, M. (1992). The Aggression Questionnaire. *Journal of Personality and Social Psychology*, 63, 452-459.

Cairney J, Boyle M, Offord DR, Racine Y (2003). Stress, social support and depression in single and married mothers. *Social Psychiatry and Psychiatric Epidemiology;* 38, 442-49.

Carver, C. S., & Scheier, M. F. (2002). Optimism. In C. R. Snyder & S. L. Lopez (Eds.), Handbook of positive psychology (pp. 231-243). New York: Oxford University Press.

Cheng C (2003). Cognitive and motivational processes underlying coping flexibility: a dual-process model. *Journal of Personality and Social Psychology; 84(2)*, 425-438.

Cheng, C. (2001). Assessing coping flexibility in real-life and laboratory settings: A multimethod approach. *Journal of Personality and Social Psychology,;80,* 814–833.

Cheng, C., Chiu, C., Hong, Y., & Cheung, J. S. (2001). Discriminative facility and its role in the quality of interactional experiences. *Journal of Personality; 69,* 765–786.

Cohen S, Miller GE & Rabin BS (2001). Psychological stress and antibody response to immunization: a critical review of the human literature. *Psychosomatic Medicine*; 63, 7-18.

Cole DA (1990). Relation of social and academic competence to depressive symptoms in childhood. *Journal of Abnormal Psychology*; 99, 422–429.

Conway VJ & Terry DJ (1992). Appraised controllability as a moderator of the effectiveness of different coping strategies: a test of the goodness of fit hypothesis. *Australian Journal of Psychology;* 44,1–7.

Coyne JC (1976). Toward an interactional description of depression. *Psychiatry;* 39, 28-40.

Cuijpers P, Smit F, Oostenbrink J, De Graaf R, Ten Have M, Beekman A (2007). Economic costs of minor depression: a population-based study. *Acta Psychiatr Scand*; 115:229–236.

Cuijpers P, De Graaf R & Van Dorsselaer S (2004). Minor depression: risk profiles, functional disability, health care use and risk of developing major depression. *Journal of Affective Disorders*; 79:71–79.

Cuijpers P & Schoevers RA (2004). Increased mortality in depressive disorders: a review. *Current Psychiatry Rep*; 6:430–437.

Daley SE, Hammen C, Burge D, Davila J, Paley B, et al. (1997). Predictors of the generation of episodic stress: a longitudinal study of late adolescent women. *Journal of Abnormal Psychology;* 106, 251–59.

Davidson RJ, Lewis DA, Alloy LB, Amara DG, Bush G, Cohen JD et al., (2002). Neural and behavioural substrates of mood and mood regulation. *Biological Psychiatry*; 52, 478-502.

Dohrenwend BP, Levav I, Shrout PE, Schwartz S, Naveh G, et al. (1992). Socioeconomic status and psychiatric disorders: the causation selection issue. *Science;* 255, 946–52.

Elliott M, Browne K & Kilcoyne J (1995). Child sexual abuse prevention: what offenders tell us. *Child Abuse Neglect*; 19, 579–594.

Downey G & Coyne JC (1990). Children of depressed parents: an integrative review. *Psychological Bulletin; 108*, 50-76.

Elliot, T. R., Chartrand, J. M., & Harkins, S. (1994). Negative affectivity, emotional distress, and the cognitive appraisal of occupational stress. *Journal of Vocational Behaviour, 45,* 185-201.

Fava M, Alpert JE, Carmin CN, Wisniewski SR, Trivedi MH, Biggs, MM, Shores- Wilson K, Morgan D, Schwartz T, Balasubramani GK & Rush AJ (2004). Clinical correlates and symptom patterns of anxious depression among patients with major depressive disorder in STAR-D. *Psychological Medicine;* 34, 1299-1308.

Ferguson, E., Matthews, G., & Cox, T. (1999). The Appraisal of Life Events (ALE) scale: Reliability and validity. *British Journal of Health Psychology*, 4, 97-111.

Finlay-Jones R & Brown GW (1981). Types of stressful life events and the onset of anxiety and depressive disorders. *Psychological Medicine;* 11, 803-815.

Flett GL, Vredenburg K & Krames L (1997). The Continuity of Depression in Clinical and Nonclinical Samples. *Psychological Bulletin*, 121(3), 395-416.

Folkman S & Lazarus RS (1986). Stress processes and depressive symptomatology. *Journal of Abnormal Psychology*; 95(2), 107-113.

Folkman S, Lazarus RS (1985). If it changes it must be a process: study of emotion and coping during three stages of a college examination. *Journal of Personality and Social Psychology;* 48,150–70.

Frank M (1999). Natural history and preventive treatment of recurrent mood disorders. *Annual Reviews in Medicine*; 50: 453–468.

Frank E, Kupfer DJ, Perel JM, Cornes C, Jarrett DB, Mallinger AG, et al (1990). Three-year outcomes for the maintenance therapies in recurrent depression. *Achives of General Psychiatry*; 47(12), 10993-1099.

Gallagher DJ (1990). Extraversion, neuroticism, and appraisal of stressful academic events. *Personality and Individual Differences, 11,* 1053-1057.

Garber J & Flynn C (2001). Predictors of depressive cognitions in young adolescents. *Cognitive Therapy & Research; 25,* 353–376.

Ge X, Lorenz FO, Conger RD, Elder GH & Simons RL (1994). Trajectories of stressful life events and depressive symptoms during adolescence. *Developmental Psychology; 30,* 467–483.

Gladstone G, Parker G, Mitchell P, Malhi G, Wilhelm K & Austin MP (2004). Implications of childhood trauma for depressed women: An analysis of pathways from childhood sexual abuse to deliberate self-harm and re-victimization. *American Journal of Psychiatry, 161,* 1417-1425.

Gibb BE, Alloy LB, Abramson, LY, Rose DT, Whitehouse, WG, Donovan P, et al. (2001). History of childhood maltreatment, negative cognitive styles, and episodes of depression in adulthood. *Cognitive Therapy and Research; 25,* 425–446.

Goodman S (2002). Depression and early adverse experiences. In I. Gotlib & C. Hammen (Eds.), *Handbook of depression* (pp. 245–267). New York: Guilford Press.

Gotlib I & Hammen C (1992). *Psychological aspects of depression: Toward a cognitive-interpersonal integration.* Wiley, Chichester.

Grant I, Hervey L, Sweetwood M S, Yager J, & Gerst M (1981). Quality of life events in relation to psychiatric symptoms. *Archives* of *General Psychiatry;* 38, 335-339.

Groomes, D. A. G., & Leahy, M. J. (2002). The relationships among the stress appraisal process, coping disposition, and level of acceptance of disability. *Rehabilitation Counselling Bulletin*; 46, 142.

Guze S & Robins E (1970). Suicide among primary affective disorders. *British Journal of Psychiatry;* 117, 433-438.

Hammen C (2005). Stress and depression. *Annual Reviews in Clinical Psychology*; 1, 293-319.

Hammen C, Brennan PA (2002). Interpersonal dysfunction in depressed women: impairments independent of depressive symptoms. *Journal of Affective Disorders;* 72,145–56.

Hammen C (1992). Life events and depression: the plot thickens. *American Journal of Community Psychology;* 20, 179–193.

Hammen, C., & Cochran, S. D. (1981). Cognitive correlates of life stress and depression in college students. *Journal of Abnormal Psychology*, 90, 223–227.

Hayden EP, Klein DN. 2001. Outcome of dysthymic disorder at 5-year follow-up: the effect of familial psychopathology, early adversity, personality, comorbidity, and chronic stress. *American Journal of Psychiatry;* 158, 1864–70.

Heim C, Newport DJ, Mletzko T, Miller AH, Nemeroff CB (2008). The link between childhood trauma and depression: insights from the HOA axis studies in humans. *Psychoneuroendocrinology;* 33, 693-710.

Heim C & Nemeroff CB (2001). The role of childhood trauma in the neurobiology of mood and anxiety disorders: preclinical and clinical studies.

Hemenover SH. & Dienstbier RA (1996). Prediction of stress appraisals from mastery, extraversion, neuroticism, and general appraisal tendencies. *Motivation and Emotion*, 20, 299 – 317.

Hollon SD & Kendall PC (1980). Cognitive self-statements in depression: Development of an Automatic Thoughts Questionnaire. *Cognitive Therapy and Research, 4,* 383 – 395.

Jang KL, Thordarson DS, Stein MB, Cohan SL & Taylor S (2007). Coping styles and personality: a biometric analysis. *Anxiety, Stress, and Coping*; 20(1): 17-24.

Joiner T, Coyne JC & Blalock J (1999). On the interpersonal nature of depression: Overview and synthesis. In T. Joiner & J C Coyne (Eds.), *The interactional nature of depression* (pp. 3–19). Washington, DC: American Psychological Association.

Judd LL, Akiskal HS & Paulas MP (1997). The role and clinical significance of sybsyndrommal depressive symptoms (SSD) in unipolar depressive disorder. *Journal of Affective Disorders*; 45, 5-18.

Kaslow NJ, Deering CG, & Racusin GR (1994). Depressed children and their families. *Clinical Psychology Review, 14,* 39–59.

Kelly O, Matheson K, Ravindran A, Merali Z & Anisman H (2007). Ruminative coping among patients with dysthymia before and after pharmacotherapy. *Depression and Anxiety*; 24, 233–243.

Keller MC, Neale MC and Kendler KS (2007). Association of Different Adverse Life Events With Distinct Patterns of Depressive Symptoms. *American Journal of Psychiatry*; 164, 1521-1529.

Kendler KS, Hettema JM, Butera F, Gardner CO and Prescott CA (2003). Life Event Dimensions of Loss, Humiliation, Entrapment, and Danger in the Prediction of Onsets of

Major Depression and Generalized Anxiety. *Archives in General Psychiatry*; 60, 789-796.

Kendler KS, Thornton LM & Gardner CO (2001). Genetic Risk, Number of Previous Depressive Episodes and Stressful Life Events in Predicting the Onset of Major Depression. *American Journal of Psychiatry*; 158, 582-586.

Kendler KS, Thornton LM & Gardiner CO (2000). Stressful life events and previous episodes in the etiology of major depression in women: An evaluation on the "kindling" hypothesis. *American Journal of Psychiatry*; 157, 1243-1251.

Kendler KS, Karkowski LM & Prescott CA (1999). Causal relationship between stressful life events and the onset of major depression.

Kendler KS, Davis CG, Kessler RC (1997). The familial aggregation of common psychiatric and substance use disorders in the National Comorbidity Survey: a family history study. *British Journal of Psychiatry*; 170, 541–548.

Kessler RC, Berglund P, Demler O, Jin R, Koretz D, Merikangas KR, et al (2003). The epidemiology of major depressive disorder: results from the National Comorbidity Survey Replication (NCS-R). *JAMA*; 289(23), 3095–105.

Kessler RC, Davis CG & Kendler KS (1997). Childhood adversity and adult psychiatric disorder in the US national Comorbidity survey. *Psychological Medicine*; 27, 1101-1119.

Kessler RC (1997). The effects of stressful life events on depression. *Annual Reviews in Psychology;* 48, 191-214.

Kessler RC, Nelson CB, McGonagle KA & Liu J (1996). Comorbidity of DSM-III-R major depressive disorder in the general population: Results from the US national Comorbidity Survey. *British Journal of Psychiatry,* 168(Suppl 30), 17-30.

Klerman GL, Weissman MM, Rounsaville BJ & Chevron ES (1984). *Interpersonal psychotherapy of depression.* New York: Basic Books.

Kobasa, S. C. (1979). Stressful life events, personality, and health: An inquiry into hardiness. *Journal of Personality and Social Psychology, 37,* 1-12.

Lazarus RS & Folkman S (1984). Coping and adaptation. In W. D. Gentry (Ed.). *The handbook of behavioral medicine (pp.* 282- 325). New York: Guilford.

Lazarus RS & Folkman S (1984b). *Stress, Appraisal, and Coping*. New York: Springer.

Leventhal AM & Rehm LP (2004). The empirical status of melancholia: Implications for psychology. *Clinical Psychology Review,* 25, 25-44.

Lewinsohn PM, Solomon A, Seeley JR & Zeiss A (2000). Clinical Implications of Subthreshold Depressive Symptoms. *Journal of Abnormal Psychology*, 109(2), 345-351.

Matheson K & Anisman H (2003). Systems of coping associated with dysphoria, anxiety and depressive illness: a multivariate profile perspective. *Stress; 6(3)*, 223-234.

Matza, LS, Revicki DA, Davidson JR & Stewart JW (2003). Depression with atypical features in the National Comorbidity Survey: classification, description, and consequences. *Archives in General Psychiatry;* 60, 817– 826.

McEwen B (2000). Allostasis and allostatic load: implications for neuropsychopharmacology. *Neuropsychopharmacology;* 22, 108–124.

McGonagle KA & Kessler RC (1990). Chronic stress, acute stress, and depressive symptoms. *American Journal of Community Psychology*; 18, 681-706.

Meaney M J (2001). Maternal care, gene expression, and the transmission of individual differences in stress reactivity across generations. *Annual Review of Neuroscience*, 24, 1161–1192.

Monroe SM & Simons AD (1991). Diathesis-stress theories in the context of life stress research: Implications for depressive disorders. *Psychological Bulletin*; 110, 406-425.

Murray AL (1996). Evidence based health policy — lessons from the Global Burden of Disease Study. *Science* ; 274, 740.

Nolen-Hoeksema S, Girgus J & Seligman M (1992). Predictors and consequences of childhood depressive symptoms: A 5-year longitudinal study. *Journal of Abnormal Psychology; 101,* 405–422.

Olfson M, Fireman B, Weissman MM, et al (1997). Mental disorders and disability among patients in a primary care group practice. *American Journal of Psychiatry*, 154, 1734-1740.

Parker G, Gladstone G, Mitchell P, Wilhelm K & Roy K (2000). Do early adverse experiences establish a cognitive vulnerability to depression on exposure to mirroring life events in adulthood? *Journal of Affective Disorders; 57,* 209–215.

Patterson GR & Stoolmiller M (1991). Replications of the dual failure model for boys' depressed mood. *Journal of Consulting and Clinical Psychology*; 59, 491-498.

Paykel ES (2003). Life events and affective disorders. *Acta Psychiatrica Scandinavica*; 108 (Suppl. 418), 61-66.

Paykel ES (2001). The evolution of life events research in psychiatry. *Journal of Affective Disorders*; 62, 141-149.

Paykel ES & Cooper Z (1992) Life events and social stress. In: Handbookof Affective Disorders, 2nd Ed (ed E. S. Paykel), pp 149-170. Edinburgh: Churchill Livingston.

Paus T, Keshavan M, Giedd JN (2008). Why do many psychiatric disorders emerge during adolescence? *Nature Reviews Neuroscience*; 9, 947–957.

Power TG & Hill LG (2010). Individual differences in appraisal of minor, potentially stressful events: A cluster analytic approach. *Cognition & Emotion*; 24(7), 1081-1109.

Preacher KJ & Hayes AF (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*; *40*, 879-891.

Preacher KJ & Hayes AF (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, and Computers; 36,* 717-731.

Renouf AG & Harter S (1990). Low self-worth and anger as components of the depressive experience in young adolescents. *Development and Psychopathology; 2,* 293-310.

Roesch, S. C., & Rowley, A. A. (2005). Evaluating and developing a multidimensional, dispositional measure of appraisal. *Journal of Personality Assessment*, 85, 188 – 196.

Rose D & Abramson L (1992). Developmental predictors of depressive cognitive style: Research and theory. In D. Cicchetti & S. Toth (Eds.), *Developmental perspectives on depression* (pp. 323–349). Rochester, NY: University of Rochester Press.

Rudolph KD, Hammen C, Burge D, Lindberg N, Herzberg D & Daley SE (2000). Toward an interpersonal lifes-stress model of depression: the developmental context of stress generation. *Development and Psychopathology; 12*, 215-234.

Sapolsky RM (2001). Depression, antidepressants, and the shrinking hippocampus. *Proceedings of the National Academy of Sciences of the United States of America*; 98, 12320-12322.

Scherer, R. F., & Drumheller, P. M., Jr. (1992). Consistency in cognitive appraisal of a stressful event over time. *Journal of Social Psychology*, 132, 553 – 555.

Seligman MEP, Peterson C, Kaslow NJ, Tanenbaum RL, Alloy LB, & Abramson LY(1984). Attributional style and depressive symptoms among children. *Journal of Abnormal Psychology*; 93, 235-238.

Shewchuck RM, Elliot TR, MacNair-Semands RR & Harkins S (1999). Trait influences on stress appraisal and coping: an evaluation of alternate frameworks. *Journal of Applied Social Psychology;* 29(4), 685-704

Simmons RG, Burgeson R, Carlton-Ford S & Blyth DA (1987). The impact of cumulative change in adolescence. *Child Development*; 58, 1220–1234.

Skinner E, Edge K, Altman J & Sherwood H (2003). Searching for the structure of coping: A review and critique of category systems for classifying ways of coping. *Psychological Bulletin; 129*, 216-269.

Skinner, N., & Brewer, N. (2002). The dynamics of threat and challenge appraisals prior to stressful events. *Journal of Personality and Social Psychology*, 83, 678 - 692.

Smith, CA & Kirby, LD (2009). Putting appraisal in context: Toward a relational model of appraisal and emotion. *Cognition & Emotion*; 23(7), 1352 - 1372.

Smith CA & Ellsworth PC (1987). Patterns of appraisal and emotion related to taking an exam. *Journal of Personality and Social Psychology;* 52, 475-488.

Snyder CR, Rand K & Sigmon DR (2002). Hope theory: A member of the positive psychology family. In C. R. Snyder & S. L. Lopez (Eds.), Handbook of positive psychology (pp. 257-276). New York: Oxford University Pres.

Stroebe MS &Schut H (2001). Meaning making in the dual process model of coping with bereavement. In *Meaning Reconstruction, the Experience of Loss*, ed. RA Neimeyer, pp. 55–73. Washington, DC: Am. Psychol. Assoc.

Swindle RW, Cronkite RC, Moos RH (1989). Life stressors, social resources, coping, and the 4-year course of unipolar depression. *Journal of Abnormal Psychology;* 98, 468–77.

Wagner HR, Burns BJ, Broadhead WE, Yarnall KSH, Sigmon A, Gaynes BN (2000). Minor depression in family practice: functional morbidity, co-morbidity, service utilization and outcomes. *Psychological Medicine*; 30, 1377–1390.

Weisz J, Sweeney L, Proffitt V & Carr T (1993). Control-related beliefs and self-reported depressive symptoms in late childhood. *Journalof Abnormal Psychology; 102,* 411–418.

Zeidner M & Saklofske D (1996). Adaptive and maladaptive coping. See Zeidner & Endler 1996, pp. 505–31.

Zimmerman M, McDermut W, Mattia JI (2000). Frequency of anxiety disorders in psychiatric outpatients with major depressive disorder. *American Journal of Psychiatry;* 157, 1337-1340.

Appendix A

Recruitment Notice

Study Title: Cognitive and Behavioural Flexibility: Relation to early life events and vulnerability/resilience to psychopathology.

Abstract: Earn .25% in experimental credit in Introductory Psychology Course

OR a $5 gift certificate to Tim Hortons or Starbucks

Description: The purpose of this study is to assess how your individual characteristics and personal resources affect your quality of life and ability to handle life's stressors. We are asking you to fill out a number of questionnaires regarding how you feel about yourself, how you asses situations as being positive or negative, how you cope with situations in your life, how accepting you are of day to day stressors and your physical and mental health.

You will be asked to make an appointment to come in and fill out a questionnaire assessing these factors which will take approximately 45-60 minutes to complete.

Eligibility: In order to be eligible for participation in this study you must be a Carleton University student.

This study has been approved by the Carleton University Ethics Committee for Psychological Research

Appendix B

Informed Consent

The purpose of an informed consent is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent has to provide sufficient information such that you have the opportunity to determine whether you wish to participate in the study.

Study Title: Cognitive and Behavioural Flexibility: Relation to early life events and vulnerability/resilience to psychopathology.

Study Personnel: Heather Hogan (Graduate Researcher, 520-2600 ext. 4199)

Robert Gabrys (Graduate Researcher, 520-2600 ext. 4199)

Rachel Oommen (Research Assistant, 520-2600 ext. 2683)

Dr. Owen Kelly (Adjunct Investigator, 722-6521 ext. 6727)

Dr. Kim Matheson (Faculty Investigator, 520-2648)

If you have any ethical concerns about this study please contact Dr. Monique Sénéchal, Chair of the Department of Psychology Research Ethics Committee at Carleton University at 613 520-2600 ext. 1155.

If you have any other concerns about the study please contact Dr. Janet. Mantler, Chair, Department of Psychology, 520-2600 ext. 4173

Purpose and Task Requirements: The purpose of this study is to assess how your individual characteristics and personal resources affect your quality of life and ability to handle life's stressors. We are asking you to fill out a number of questionnaires regarding how you feel about yourself, how you asses situations as being positive or negative, how you cope with situations in your life, how accepting you are of day to day stressors and your physical and mental health. The questionnaire should take approximately 45-60 minutes to complete. To thank you for your participation, you will be awarded a .5% experimental credit in your Introductory Psychology Course or a gift certificate for $10 to Tim Hortons or Starbucks.

Potential Risk and Discomfort: There are no physical risks in this study. There may be some discomfort or anxiety experienced when responding to some of the questions in this study or thinking about various stressors or difficulties in your life. If this is the case, the Debriefing form at the end of the study contains contact information for people who are available to help.

Anonymity/Confidentiality: The data collected in this study will be kept confidential. Because we may want to contact you for follow-up studies in the future (if you give us permission to do so) we will have to be able identify who you are on your questionnaire. However, we take special precautions to make sure that no-one else will be able to identify you and what your responses were. We will be doing this by putting a code on your questionnaire and on the final page you will complete that asks your name and how we can contact you. This last page, as well as your informed consent form, will be separated from your questionnaire and kept in a separate and secured file by one of the research investigators who will keep this information confidential.

Should you choose to participate in a follow-up study, additional consent will be obtained.

Right to Withdraw: Your participation in this study is entirely voluntary. At any point during the study you have the right to not complete certain questions or to withdraw with no penalty whatsoever.

I have read the above description of the study concerning how your individual characteristics and personal resources affect your quality of life and ability to handle life's stressors. The data collected will be used in research publications. My signature indicates that I agree to participate in the study, and this in no way constitutes a waiver of my rights.

ACCEPT DECLINE

PARTICIPANT

Name: _____ Signature: _____

WITNESS

Name: _____ Signature: _____

Date: _____/_____/_____

DAY / MONTH / YEAR

This study has been approved by the Carleton University Ethics Committee for Psychological Research

Appendix C

Debriefing

Cognitive appraisals and coping strategies have been shown to play an important role in the impacts of stressful experiences on psychological and physical wellbeing. Previous findings suggest that the same coping strategy may serve different functions in different situations for different people. Therefore, ones ability to exhibit flexibility in regards to appraising stressful situations and the employment of coping strategies may play a very important role in how they fare when encountering these events.

Carleton University is very concerned about the welfare of its students. It is therefore supporting this study so that we can gain an understanding of the factors that may be important for students to cope with day to day life in a healthy way. To this end, we have asked you to fill out various questionnaires that assessed how you feel about yourself, how you appraise situations as being positive or negative, how you cope with events in your life, how accepting you are of day to day stressors and your physical and mental health. We also asked questions to determine what types of stressful events you have experienced in the past and how much impact you feel those events had on you.

In general, studies like the one you have participated in lead to a better understanding of people's psychological processes and can therefore aid in the development of novel therapeutic interventions for people who are having difficulties with these processes. Thus, your participation is useful in helping us find ways to help people who are struggling to cope with the stressful situations they encounter in a healthy way.

Some of the questions asked in this study pertained to depression, please find below some general information about depression and the contact information for places you can seek help if you feel you may be suffering from depression.

Depression is a condition that can occur for many reasons, including workplace, school, or relationship stressors, traumatic life events, discrimination, as well as physical/biological imbalances. Approximately 10-15% of people will suffer some degree of depression during their lifetime. With advances in modern medicine, most people can readily be treated for this illness, which if unattended can be long lasting and affect many aspects of one's life. The symptoms of depression comprise:

- Poor or depressed mood, or a reduction in the pleasure gained from otherwise positive experiences
- Sleep disturbances
- Eating disturbances (loss of appetite, or overeating despite not being hungry), which may be linked to weight changes
- Lack of sexual interest
- Fatigue and lethargy (you don't feel like doing anything)
- An inability to focus (e.g., you have a hard time reading)

- Reduced interactions with family and friends
- Thoughts of suicide

Someone who is depressed may experience several (3-4), but not necessarily all of the above symptoms.

It is likewise the case that 60% of individuals will encounter a severe traumatic event in their lives and of these people, a fair number will develop symptoms that cause severe anxiety. Illnesses of this nature, including posttraumatic stress disorder (PTSD) can be treated. Once again, if unattended, the repercussions can be severe. Symptoms include:

- Hyperarousal (e.g., feelings of anxiety and reactivity even to minor situations)
- Intrusive thoughts (memories of the event come into your head frequently)
- Avoiding thoughts or stimuli related to the event

These symptoms can persist for more than a month following the event, and influence your day-to-day functioning.

Your responses to this survey suggest that you may be experiencing one of the above disorders. If you are not already receiving attention for this problem, it is suggested that you contact your family physician. It is not a good idea to allow problems to fester, as ruminating over these problems will typically not make them go away. Your family physician or counsellor will usually be able to help you or to refer you to someone who can. If you do not have a family physician, then you can contact either of the following:

Carleton University Health and Counselling Services: 520-6674

Mental Health Crisis Line: within Ottawa (613) 722-6914, outside Ottawa 1-866-996-0991

Web Site: www.crisisline.ca

Ottawa Distress Centre: (613) 238 1089

Web Site: www.dcottawa.on.ca

Contact Information

The following people are involved in this research project and may be contacted at any time if you have any further questions about the project, what it means, or concerns about how it was conducted:

Dr. K. Matheson, Faculty Member, Department of Psychology

Phone: 520-2684
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If you have any ethical concerns about how this study was conducted, please contact either of the following:

Dr. Monique Sénéchal, Department of Psychology Ethics Committee at Carleton University

Phone: 520-2600 ext. 1155

Dr. Janet. Mantler, Chair, Department of Psychology

Phone: 520-2600 ext. 4173

Appendix D

General Information

Gender: ☐ Male ☐ Female Age: _____ Years

Race:

☐ Asian (e.g., Chinese, Japanese, Korean)

☐ South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan)

☐ South East Asian (e.g., Cambodian, Indonesian, Laotian)

☐ Arab/West Asian (e.g., Armenian, Egyptian, Iranian, Lebanese, Moroccan)

☐ Black (e.g., African, Haitian, Jamaican, Somali)

☐ Latin American/Hispanic

☐ Aboriginal

☐ White/Euro-Caucasian

☐ Mixed ethnicity (please specify) _____

☐ Other (please specify) _____

Level of education (current year of studies)

Undergraduate: ☐ 1st Year ☐ 2nd Year ☐ 3rd Year ☐ 4th Year

Masters: ☐ 1st Year ☐ 2nd Year

Doctorate: ☐ 1st Year ☐ 2nd Year ☐ 3rd Year ☐ 4th Year

What level of studies do you intend to complete?

☐ Undergraduate General Degree

☐ Undergraduate Honours Degree

☐ Masters Degree

☐ PhD

Preferred language:

☐ English ☐ French ☐ Other (please specify) _____

Relationship status

☐ Single ☐ Partner/Significant other ☐ Engaged

☐ Married ☐ Recently separated ☐ Divorced

Who do you live with?

☐ With parents ☐ With significant other (i.e., partner, fiancée, husband/wife)
☐ With roommates ☐ Alone ☐ Other – Specify: _____

Appendix E
Beck Depression Inventory BDI- 13 item scale

On this questionnaire are groups of statements. Please read the entire group of statements of each category. Then pick out ONE statement in that group which best describes the way you feel. Check off the number beside the statement you have chosen.

1. ___ 0 = I do not feel sad
   ___ 1 = I feel sad or blue
   ___ 2 = I am blue or sad all of the time and I can't snap out of it
   ___ 3 = I am so sad or unhappy that I can't stand it

2. ___ 0 = I am not particularly pessimistic or discouraged about the future
   ___ 1 = I feel discouraged about the future
   ___ 2 = I feel I have nothing to look forward to
   ___ 3 = I feel that the future is hopeless and things cannot improve

3. ___ 0 = I do not feel like a failure
   ___ 1 = I feel I have failed more than the average person
   ___ 2 = As I look back on my life, all I can see is a lot of failures
   ___ 3 = I feel I am a complete failure as a person

4. ___ 0 = I am not particularly dissatisfied
   ___ 1 = I don't enjoy things the way I used to
   ___ 2 = I don't get satisfaction out of anything anymore
   ___ 3 = I am dissatisfied with everything

5. ___ 0 = I don't feel particularly guilty
   ___ 1 = I feel bad or unworthy a good part of the time

___ 2 = I feel quite guilty

___ 3 = I feel as though I am very bad or worthless

6. ___ 0 = I don't feel disappointed in myself

___ 1 = I am disappointed in myself

___ 2 = I am disgusted with myself

___ 3 = I hate myself

7. ___ 0 = I don't have thoughts of harming myself

___ 1 = I feel I would be better off dead

___ 2 = I have definite plans about committing suicide

___ 3 = I would kill myself if I had the chance

8. ___ 0 = I have not lost interest in other people

___ 1 = I am less interested in other people than I used to be

___ 2 = I have lost most of my interest in other people and I have little feeling for them

___ 3 = I have lost all my interest in other people and don't care about them at all

9. ___ 0 = I make decisions about as well as ever

___ 1 = I try to put off making decisions

___ 2 = I have great difficulty in making decisions

___ 3 = I can't make decisions at all anymore

10. ___ 0 = I don't feel I look any worse than I used to

___ 1 = I am worried that I am looking old or unattractive

___ 2 = I feel that there permanent changes in my appearance and they make me look unattractive

___ 3 = I feel that I am ugly or repulsive looking

11. ___ 0 = I can work about as well as before

___ 1 = It takes extra effort to get started at doing something

___ 2 = I have to push myself very hard to so anything

___ 3 = I can't so any work at all

12. ___ 0 = I don't get anymore tired than usual

___ 1 = I get tired more easily than I used to

___ 2 = I get tired from doing anything

___ 3 = I get too tired to do anything

13. ___ 0 = My appetite is no worse than usual

___ 1 = My appetite is not as good as it used to be

___ 2 = My appetite is much worse now

___ 3 = I have no appetite at all any more

Appendix F
TRAUMATIC Life Events Questionnaire - TLEQ

The purpose of this questionnaire is to identify significant life experiences in one's life. The events listed below are far more common than many people realize. Please read each question carefully and circle the answers that best describe your experience.

1. Were you involved in a motor vehicle accident for which you received medical attention or that badly injured or killed someone?

   never once twice 3 times 4 times 5 times more than 5 times

   If this happened:
   When did it happen? _____ In the past year; _____ 2-5 years ago; _____ 6-10 years ago _____ 10-15 years ago; _____ when you were less than 5 years old
   Did you experience fear, helplessness, or horror when it happened? yes / no
   Were you seriously injured? yes / no

2. Have you been involved in any other kind of accident where you or someone else was badly hurt? (examples: a plane crash, a drowning or near drowning, an electrical or machinery accident, an explosion, home fire, chemical leak, or overexposure to radiation or toxic chemicals)

   never once twice 3 times 4 times 5 times more than 5 times

   If this happened:
   When did it happen? _____ In the past year; _____ 2-5 years ago; _____ 6-10 years ago _____ 10-15 years ago; _____ when you were less than 5 years old
   Did you experience fear, helplessness, or horror when it happened? yes / no
   Were you seriously injured? yes / no

3. Have you experienced the unexpected and sudden death of a close friend or loved one?

   never once twice 3 times 4 times 5 times more than 5 times

   If this happened:
   When did it happen? _____ In the past year; _____ 2-5 years ago; _____ 6-10 years ago _____ 10-15 years ago; _____ when you were less than 5 years old
   Did you experience fear, helplessness, or horror when it happened? yes / no
   Were you seriously injured? yes / no

4. Has a loved one (who is living) ever experienced a life threatening or permanently disabling accident, assault, or illness? (examples: spinal cord injury, rape, life threatening virus)

   never once twice 3 times 4 times 5 times more than 5 times

   If this happened:
   When did it happen? _____ In the past year; _____ 2-5 years ago; _____ 6-10 years ago _____ 10-15 years ago; _____ when you were less than 5 years old
   Did you experience fear, helplessness, or horror when it happened? yes / no

5. Have you ever had a life threatening illness?

   never once twice 3 times 4 times 5 times more than 5 times

   If this happened:
   When did it happen? _____ In the past year; _____ 2-5 years ago; _____ 6-10 years ago _____ 10-15 years ago; _____ when you were less than 5 years old
   Did you experience fear, helplessness, or horror when it happened? yes / no

6. Have you been robbed or been present during a robbery – where the robber(s) used or displayed a weapon?

   never once twice 3 times 4 times 5 times more than 5 times

   If this happened:
   When did it happen? _____ In the past year; _____ 2-5 years ago; _____ 6-10 years ago _____ 10-15 years ago; _____ when you were less than 5 years old
   Did you experience fear, helplessness, or horror when it happened? yes / no
   Were you seriously injured? yes / no

7. Have you ever been hit or beaten up and badly hurt by a stranger or someone you didn't know very well?

   never once twice 3 times 4 times 5 times more than 5 times

   If this happened:
   When did it happen? _____ In the past year; _____ 2-5 years ago; _____ 6-10 years ago _____ 10-15 years ago; _____ when you were less than 5 years old
   Did you experience fear, helplessness, or horror when it happened? yes / no
   Were you seriously injured? yes / no

8. Have you seen a stranger (or someone you didn't know very well) attack or beat up another person and seriously injure or kill them?

never once twice 3 times 4 times 5 times more than 5 times

If this happened:
When did it happen? _____ In the past year; _____ 2-5 years ago; _____ 6-10 years ago _____ 10-15 years ago; _____ when you were less than 5 years old
Did you experience fear, helplessness, or horror when it happened? yes / no

9. While growing up, were you physically punished in a way that resulted in bruises, burns, cuts, or broken bones?

never once twice 3 times 4 times 5 times more than 5 times

If this happened:
Did you experience fear, helplessness, or horror when it happened? yes / no

10. While growing up, did you see or hear family violence? (such as your father hitting your mother; or any family member beating up or inflicting bruises, bruises, or cuts on another family member)

never once twice 3 times 4 times 5 times more than 5 times

If this happened:
Did you experience fear, helplessness, or horror when it happened? yes / no

11. Have you ever been slapped, punched, kicked, beaten up, or otherwise physically hurt by your spouse (or former spouse), a boyfriend/girlfriend, or some other intimate partner?

never once twice 3 times 4 times 5 times more than 5 times

If this happened:
When did it happen? _____ In the past year; _____ 2-5 years ago; _____ 6-10 years ago
Did you experience fear, helplessness, or horror when it happened? yes / no
Were you seriously injured? yes / no
Has more than one intimate partner physically hurt you? yes / no
If yes, how many have hurt you? _____

12. Before your 13th birthday: Did anyone – who was at least 5 years older than you – touch or fondle your body in a sexual way or make you touch or fondle their body in a sexual way?

never once twice 3 times 4 times 5 times more than 5 times

If this happened:
Did you experience fear, helplessness, or horror when it happened? yes / no
Were you seriously injured? yes / no
Was the person a stranger? yes / no friend or acquaintance? yes / no
parent or caregiver? yes / no other relative? yes / no
Was threat or force used? yes / no
Was there oral, anal, or vaginal penetration? yes / no

13. Before your 13th birthday: Did anyone close to your age touch sexual parts of your body or make you touch sexual parts of their body –against your will or without your consent?

never once twice 3 times 4 times 5 times more than 5 times

If this happened:
Did you experience fear, helplessness, or horror when it happened? yes / no
Were you seriously injured? yes / no
Was the person a stranger? yes / no friend or acquaintance? yes / no
parent or caregiver? yes / no other relative? yes / no
Was threat or force used? yes / no
Was there oral, anal, or vaginal penetration? yes / no

14. After your 13th birthday and before your 18th birthday: Did anyone touch sexual parts of your body or made you touch sexual parts of their body – against your will or without your consent?

never once twice 3 times 4 times 5 times more than 5 times

If this happened:
Did you experience fear, helplessness, or horror when it happened? yes / no
Were you seriously injured? yes / no
Was the person a stranger? yes / no friend or acquaintance? yes / no
parent or caregiver? yes / no other relative? yes / no
Was threat or force used? yes / no
Was there oral, anal, or vaginal penetration? yes / no

15. After your 18th birthday: : Did anyone touch sexual parts of your body or made you touch sexual parts of their body – against your will or without your consent?

never once twice 3 times 4 times 5 times more than 5 times

If this happened:
Did you experience fear, helplessness, or horror when it happened? yes / no
Were you seriously injured? yes / no
Was the person a stranger? yes / no friend or acquaintance? yes / no

parent or caregiver? yes / no other relative? yes / no
Was threat or force used? yes / no
Was there oral, anal, or vaginal penetration? yes / no

16. Have you ever had a miscarriage?

never once twice 3 times 4 times 5 times more than 5 times

If this happened:
When did it happen? _____ In the past year; _____ 2-5 years ago; _____ 6-10 years ago
Did you experience fear, helplessness, or horror when it happened? yes / no
Were you seriously injured? yes / no

17. Have you ever had an abortion?

never once twice 3 times 4 times 5 times more than 5 times

If this happened:
When did it happen? _____ In the past year; _____ 2-5 years ago; _____ 6-10 years ago
Did you experience fear, helplessness, or horror when it happened? yes / no

18. Have you ever had something happened to you that you believe represented an experience of discrimination (e.g., religious, racial, sex)?

never once twice 3 times 4 times 5 times more than 5 times

If this happened:
When did it happen? _____ In the past year; _____ 2-5 years ago; _____ 6-10 years ago _____ 10-15 years ago; _____ when you were less than 5 years old
Was the source of the discrimination a stranger? yes / no
friend or acquaintance? yes / no
someone in your workplace/school? yes / no
an organization/institution yes / no
Did you experience fear, helplessness, or horror when it happened? yes / no

19. Have you experienced (or seen) any other events that were life threatening, caused serious injury, or were highly disturbing and distressing? (examples: lost in the wilderness; a serious animal bite; violent death of a pet; being kidnapped and held hostage; seeing a mutilated body or parts)

never once twice 3 times 4 times 5 times more than 5 times

Please describe:_____
_____

If this happened:

Did you experience fear, helplessness, or horror when it happened? yes / no

Were you seriously injured? yes / no

Appendix G

Life Experiences Survey - R

Listed below are a number of events which may bring about change in the lives of those who experience them and which necessitate readjustment. *Please check those events which you have experienced in the **recent past** and indicate the time period during which you have experienced each event.* Also, for each item checked below, *please indicate the extent to which you viewed the event as having either a **positive** or **negative** impact on your life* at the time the event occurred. Note, please **leave blank** *if the event had **not** occurred to you*

Extremely Negative	Very Negative	Moderately Negative	Somewhat Negative	No Impact	Slightly Positive	Moderately Positive	Very Positive	Extremely Positive
-100	-75	-50	-25	0	+25	+50	+75	+100

In the past year did the following occur? (Leave blank if the event did not occur in the past year.)	**0 to 6 months**	**7 months to 1 year**	**Positive Impact**	**Negative Impact**	**Extent of Impact**
Marriage (EXAMPLE)	✓		✓		+100
Death of a spouse					
Major change in sleeping habits (much less or more sleep)					
Death of a close family member.					
Major change in eating habits (much more or less food intake).					

In the past year did the following occur? (Leave blank if the event did not occur in the past year.)	**0 to 6 months**	**7 months to 1 year**	**Positive Impact**	**Negative Impact**	**Extent of Impact**
Death of a close friend.					
Outstanding personal achievement.					
Minor law violations (traffic tickets, disturbing the peace, etc.)					
You or your partner got pregnant.					
Change work situation (different work responsibility, major change in working conditions, hours, etc.).					
New job.					
Serious illness or injury of close family member.					
Marriage					
Sexual difficulties.					
Trouble with in-laws.					
Trouble with employer (in danger of losing job, being suspended, demoted, etc.).					

In the past year did the following occur? (Leave blank if the event did not occur in the past year.)	**0 to 6 months**	**7 months to 1 year**	**Positive Impact**	**Negative Impact**	**Extent of Impact**
Major change in financial status (much better/worse off).					
Major change in closeness of family members (increased or decreased closeness).					
Gaining a new family member (through birth, adoption, family member moving in, etc.).					
Change of residence.					
Separation from partner (due to conflict).					
Major change in church activities (increased or decreased attendance).					
Reconciliation (making up) with partner.					
Major change in number of arguments with partner (a lot more or a lot fewer arguments)					
Change in spouse/partner's work (loss of job, beginning new job, retirement, etc.).					
Major change in usual type and/or amount of recreation.					

In the past year did the following occur? (Leave blank if the event did not occur in the past year.)	**0 to 6 months**	**7 months to 1 year**	**Positive Impact**	**Negative Impact**	**Extent of Impact**
Borrowing more than $10,000 (buying home, business, etc.)					
Borrowing less than $10,000 (buying car, RV, getting school loan, etc).					
Being fired from job.					
You or your spouse/partner had an abortion.					
Major personal illness or injury.					
Major change in social activities, such as parties, movies, visiting (increased or decreased participation).					
Major change in family living conditions (building new home, remodelling, deterioration of home, neighbourhood).					
Divorce					
Serious injury or illness of a close friend.					
Separation from spouse (due to work, travel, etc.)					
Engagement.					

In the past year did the following occur? (Leave blank if the event did not occur in the past year.)	**0 to 6 months**	**7 months to 1 year**	**Positive Impact**	**Negative Impact**	**Extent of Impact**
Breaking up with boyfriend/girlfriend.					
Leaving home for the first time.					
Reconciliation (making up) with boyfriend/girlfriend.					
Beginning a new school experience at a higher academic level (college, graduate school, professional school, etc...)					
Changing to a new school at same academic level (undergraduate, graduate, etc...)					
Academic probation					
Being dismissed from dormitory or other residence					
Failing an important exam					
Changing a major					
Failing a course					
Dropping a course					

In the past year did the following occur? (Leave blank if the event did not occur in the past year.)	**0 to 6 months**	**7 months to 1 year**	**Positive Impact**	**Negative Impact**	**Extent of Impact**
Joining a fraternity/sorority					
Financial problems concerning school (in danger of not having sufficient money to continue)					

Appendix H

APPRAISAL MEASURE AASQ

The following is a list of situations that you might encounter at one time or another. Please imagine yourself in each situation, and then indicate how threatening and distressing you would find each of these events. Also, try to imagine how much control you would have over the event happening in the first place and how important that control would be for you. As well, please consider the resolution or outcome of the situation and how you would cope with it. We will also be asking you to indicate your thoughts concerning each of these situations. Please note that there are no right answers for each question – we are simply looking for your first reaction to each of these situations.

1) Your professor hands back last week's assignments to everyone but you, and then asks you to stay after class.

a. How threatening would this situation be for you?

1	2	3	4	5
Not at all				Extremely

b. How distressing would this situation be for you?

1	2	3	4	5
Not at all				Extremely

c. How willing do you think you would be to experience these feelings of threat and/or distress without acting on them (i.e, without trying to manage them, get rid of them, suppress them or run from them etc.)?

1	2	3	4	5
Extremely Willing				Completely Unwilling

d. How much control do you think you would have over this event?

1	2	3	4	5
No control				Complete control

e. How important do you think it would be for you to have control over this event?

1 2 3 4 5

Not important Very important

f. What would you think the professor is most likely to say?

_____ Your assignment was excellent – I just wanted to put a name to a face.

_____ Your assignment was great, but there was one question where you could have done better.

_____ Is this your assignment? You forgot to put your name at the top.

_____ I'm a little worried that you might not understand the material.

_____ Your assignment was completely unsatisfactory – you should consider dropping this course.

g. How willing do you think you would be to accept this outcome?

1 2 3 4 5

Extremely Willing Completely Unwilling

h. If I was in this situation, I would…

	Not at all Likely				Extremely Likely
1. make plans to overcome my concerns or problems.	0	1	2	3	4
2. tell myself that other people have problems just like mine.	0	1	2	3	4
3. move on by getting involved in recreation or pleasure activities.	0	1	2	3	4
4. try to keep my mind off things that are upsetting me.	0	1	2	3	4
5. spend a lot of time thinking about my problems.	0	1	2	3	4
6. make humorous comments or tell stories about my situation.	0	1	2	3	4

7. talk with friends or relatives about my problem.	0	1	2	3	4
8. cry, even in the company of someone else.	0	1	2	3	4
9. think a lot about who is responsible for my problems (besides me).	0	1	2	3	4
10. think about how I have brought these problems on myself.	0	1	2	3	4
11. hold in my feelings.	0	1	2	3	4
12. decide to wait and see how things turn out rather than trying to change anything.	0	1	2	3	4
13. wish the situation would just go away or be over with.	0	1	2	3	4

2) Imagine that you get home from class and there is a message from someone you're very close to (e.g., partner) who is away at another university that they really have to talk to you.

a. How threatening would this situation be for you?

1	2	3	4	5
Not at all				Extremely

b. How distressing would this situation be for you?

1	2	3	4	5
Not at all				Extremely

c. How willing do you think you would be to experience these feelings of threat and/or distress without acting on them (i.e, without trying to manage them, get rid of them, suppress them or run from them etc.)?

1	2	3	4	5
Extremely Willing				Completely Unwilling

d. How much control do you think you would have over this event?

1	2	3	4	5
No control				Complete control

e. How important do you think it would be for you to have control over this event?

1	2	3	4	5
Not important				Very important

f. What would you think this person is most likely to say?

_____ I really miss you – I just had to hear your voice.

_____ I just got an A on my first mid-term.

_____ I'm looking for an email address, do you have it?

_____ I'm a little concerned about our relationship.

_____I've thought about it, and I don't think I need this relationship in my life.

g. How willing do you think you would be to accept this outcome?

1	2	3	4	5
Extremely Willing				Completely Unwilling

h. If I was in this situation, I would…

	Not at all Likely				Extremely Likely
1. make plans to overcome my concerns or problems.	0	1	2	3	4
2. tell myself that other people have problems just like mine.	0	1	2	3	4
3. move on by getting involved in recreation or pleasure activities.	0	1	2	3	4
4. try to keep my mind off things that are upsetting me.	0	1	2	3	4
5. spend a lot of time thinking about my problems.	0	1	2	3	4

6. make humorous comments or tell stories about my situation.	0	1	2	3	4
7. talk with friends or relatives about my problem.	0	1	2	3	4
8. cry, even in the company of someone else.	0	1	2	3	4
9. think a lot about who is responsible for my problems (besides me).	0	1	2	3	4
10. think about how I have brought these problems on myself.	0	1	2	3	4
11. hold in my feelings.	0	1	2	3	4
12. decide to wait and see how things turn out rather than trying to change anything.	0	1	2	3	4
13. wish the situation would just go away or be over with.	0	1	2	3	4

3) ***You overhear a discussion about a party that your friends went to last week; however you are only hearing about it now.***

a. How threatening would this situation be for you?

1	2	3	4	5
Not at all				Extremely

b. How distressing would this situation be for you?

1	2	3	4	5
Not at all				Extremely

c. How willing do you think you would be to experience these feelings of threat and/or distress without acting on them (i.e, without trying to manage them, get rid of them, suppress them or run from them etc.)?

1	2	3	4	5
Extremely Willing				Completely Unwilling

d. How much control do you think you would have over this event?

1 2 3 4 5

No control Complete control

e. How important do you think it would be for you to have control over this event?

1 2 3 4 5

Not important Very important

f. What would you think is the most likely reason that you didn't get invited along?

_____It was my own fault – I was at the library all night and they couldn't reach me.

_____My friends are forgetful, but it doesn't mean anything.

_____I must have mentioned a few days earlier that I didn't feel like going, so they didn't ask.

_____This has happened a few times now – I must have done something wrong.

_____It's certain that I've fallen out of favor with my friends.

g. How willing do you think you would be to accept this outcome?

1 2 3 4 5

Extremely Willing Completely Unwilling

h. If I was in this situation, I would…

	Not at all Likely				Extremely Likely
1. make plans to overcome my concerns or problems.	0	1	2	3	4
2. tell myself that other people have problems just like mine.	0	1	2	3	4
3. move on by getting involved in recreation or pleasure activities.	0	1	2	3	4
4. try to keep my mind off things that are upsetting me.	0	1	2	3	4
5. spend a lot of time thinking about my problems.	0	1	2	3	4
6. make humorous comments or tell stories about my situation.	0	1	2	3	4

7. talk with friends or relatives about my problem.	0	1	2	3	4
8. cry, even in the company of someone else.	0	1	2	3	4
9. think a lot about who is responsible for my problems (besides me).	0	1	2	3	4
10. think about how I have brought these problems on myself.	0	1	2	3	4
11. hold in my feelings.	0	1	2	3	4
12. decide to wait and see how things turn out rather than trying to change anything.	0	1	2	3	4
13. wish the situation would just go away or be over with.	0	1	2	3	4

4) There is an outbreak of a new strain of flu and the government is only able to immunize a portion of the population. The criteria for immunization have not been disclosed.

a. How threatening would this situation be for you?

1	2	3	4	5
Not at all				Extremely

b. How distressing would this situation be for you?

1	2	3	4	5
Not at all				Extremely

c. How willing do you think you would be to experience these feelings of threat and/or distress without acting on them (i.e, without trying to manage them, get rid of them, suppress them or run from them etc.)?

1	2	3	4	5
Extremely Willing				Completely Unwilling

d. How much control do you think you would have over this event?

1	2	3	4	5

No control Complete control

e. How important do you think it would be for you to have control over this event?

1 2 3 4 5

Not important Very important

f. What would you be most likely to think of this possible outbreak of flu?

_____I'm sure that I'm safe – I will be immunized

_____Though I can't guarantee it, I'm fairly certain I'll be safe

_____It's to hard to say either way what will happen

_____Knowing my luck, I probably won't meet the criteria – I might be in danger

_____I'm positive that I won't be picked – my life is in serious jeopardy

g. How willing do you think you would be to accept this outcome?

1 2 3 4 5

Extremely Willing Completely Unwilling

h. If I was in this situation, I would…

	Not at all Likely				Extremely Likely
1. make plans to overcome my concerns or problems.	0	1	2	3	4
2. tell myself that other people have problems just like mine.	0	1	2	3	4
3. move on by getting involved in recreation or pleasure activities.	0	1	2	3	4
4. try to keep my mind off things that are upsetting me.	0	1	2	3	4
5. spend a lot of time thinking about my problems.	0	1	2	3	4
6. make humorous comments or tell stories about my situation.	0	1	2	3	4

7. talk with friends or relatives about my problem.	0	1	2	3	4
8. cry, even in the company of someone else.	0	1	2	3	4
9. think a lot about who is responsible for my problems (besides me).	0	1	2	3	4
10. think about how I have brought these problems on myself.	0	1	2	3	4
11. hold in my feelings.	0	1	2	3	4
12. decide to wait and see how things turn out rather than trying to change anything.	0	1	2	3	4
13. wish the situation would just go away or be over with.	0	1	2	3	4

5) While doing a presentation, you notice a couple of students at the back of the class laughing.

a. How threatening would this situation be for you?

1	2	3	4	5
Not at all				Extremely

b. How distressing would this situation be for you?

1	2	3	4	5
Not at all				Extremely

c. How willing do you think you would be to experience these feelings of threat and/or distress without acting on them (i.e, without trying to manage them, get rid of them, suppress them or run from them etc.)?

1	2	3	4	5
Extremely Willing				Completely Unwilling

d. How much control do you think you would have over this event?

1 2 3 4 5

No control Complete control

e. How important do you think it would be for you to have control over this event?

1 2 3 4 5

Not important Very important

f. What would you think that they would be most likely laughing about?

_____I must have said something funny – this presentation is going rather well.

_____Something that happened in the last person's presentation.

_____Something that happened last night and has nothing to do with my presentation.

_____My presentation in general – it's probably not that great.

_____I must look like a complete idiot up here, who has no idea what they are talking about.

g. How willing do you think you would be to accept this outcome?

1 2 3 4 5

Extremely Willing Completely Unwilling

h. If I was in this situation, I would…

	Not at all Likely				Extremely Likely
1. make plans to overcome my concerns or problems.	0	1	2	3	4
2. tell myself that other people have problems just like mine.	0	1	2	3	4
3. move on by getting involved in recreation or pleasure activities.	0	1	2	3	4
4. try to keep my mind off things that are upsetting me.	0	1	2	3	4

5. spend a lot of time thinking about my problems.	0	1	2	3	4
6. make humorous comments or tell stories about my situation.	0	1	2	3	4
7. talk with friends or relatives about my problem.	0	1	2	3	4
8. cry, even in the company of someone else.	0	1	2	3	4
9. think a lot about who is responsible for my problems (besides me).	0	1	2	3	4
10. think about how I have brought these problems on myself.	0	1	2	3	4
11. hold in my feelings.	0	1	2	3	4
12. decide to wait and see how things turn out rather than trying to change anything.	0	1	2	3	4
13. wish the situation would just go away or be over with.	0	1	2	3	4

6) You go to take money out of your account, but your grant/scholarship/student loan check has not been processed by the bank / deposited by the university. Everyone else has his or hers.

a. How threatening would this situation be for you?

1	2	3	4	5
Not at all				Extremely

b. How distressing would this situation be for you?

1	2	3	4	5
Not at all				Extremely

c. How willing do you think you would be to experience these feelings of threat and/or distress without acting on them (i.e, without trying to manage them, get rid of them, suppress them or run from them etc.)?

1	2	3	4	5
Extremely Willing				Completely Unwilling

d. How much control do you think you would have over this event?

1	2	3	4	5
No control				Complete control

e. How important do you think it would be for you to have control over this event?

1	2	3	4	5
Not important				Very important

f. What would you be most likely to think if this happened?

_____No big deal-it must just be delayed due to an administrative error. I'm confident it's on the way.

_____I should probably keep an eye on it, but I'm pretty sure everything is okay.

_____Something is obviously wrong and I'm quite worried.

_____Something has definitely gone wrong with my loan/scholarship-I'm going to be broke for the year!

g. How willing do you think you would be to accept this outcome?

1	2	3	4	5
Extremely Willing				Completely Unwilling

h. If I was in this situation, I would…

	Not at all Likely				Extremely Likely
1. make plans to overcome my concerns or problems.	0	1	2	3	4
2. tell myself that other people have problems just like mine.	0	1	2	3	4

3. move on by getting involved in recreation or pleasure activities.	0	1	2	3	4
4. try to keep my mind off things that are upsetting me.	0	1	2	3	4
5. spend a lot of time thinking about my problems.	0	1	2	3	4
6. make humorous comments or tell stories about my situation.	0	1	2	3	4
7. talk with friends or relatives about my problem.	0	1	2	3	4
8. cry, even in the company of someone else.	0	1	2	3	4
9. think a lot about who is responsible for my problems (besides me).	0	1	2	3	4
10. think about how I have brought these problems on myself.	0	1	2	3	4
11. hold in my feelings.	0	1	2	3	4
12. decide to wait and see how things turn out rather than trying to change anything.	0	1	2	3	4
13. wish the situation would just go away or be over with.	0	1	2	3	4

7) You are applying some sun tan lotion when you notice a small mass on your neck. Your physician performs a small biopsy and says it's probably nothing, but that he can't be sure until the test results come back in a week.

a. How threatening would this situation be for you?

1	2	3	4	5
Not at all				Extremely

b. How distressing would this situation be for you?

1	2	3	4	5
Not at all				Extremely

c. How willing do you think you would be to experience these feelings of threat and/or distress without acting on them (i.e, without trying to manage them, get rid of them, suppress them or run from them etc.)?

1 2 3 4 5

Extremely Willing Completely Unwilling

d. How much control do you think you would have over this event?

1 2 3 4 5

No control Complete control

e. How important do you think it would be for you to have control over this event?

1 2 3 4 5

Not important Very important

f. What would be most likely to be your first thought?

_____It's definitely nothing to be concerned about

_____I'm a little concerned, but it's probably nothing

_____I'm not sure what to make of this

_____I'm pretty worried about this – I don't have a good feeling about it.

_____It's definitely something life-threatening– why else would they bother with a biopsy?

g. How willing do you think you would be to accept this outcome?

1 2 3 4 5

Extremely Willing Completely Unwilling

h. If I was in this situation, I would…

	Not at all Likely				Extremely Likely
1. make plans to overcome my concerns or problems.	0	1	2	3	4

2. tell myself that other people have problems just like mine.	0	1	2	3	4
3. move on by getting involved in recreation or pleasure activities.	0	1	2	3	4
4. try to keep my mind off things that are upsetting me.	0	1	2	3	4
5. spend a lot of time thinking about my problems.	0	1	2	3	4
6. make humorous comments or tell stories about my situation.	0	1	2	3	4
7. talk with friends or relatives about my problem.	0	1	2	3	4
8. cry, even in the company of someone else.	0	1	2	3	4
9. think a lot about who is responsible for my problems (besides me).	0	1	2	3	4
10. think about how I have brought these problems on myself.	0	1	2	3	4
11. hold in my feelings.	0	1	2	3	4
12. decide to wait and see how things turn out rather than trying to change anything.	0	1	2	3	4
13. wish the situation would just go away or be over with.	0	1	2	3	4

8) You were really drunk at a party last Friday night, the events are hazy but you know you've stepped on a few toes/made a fool of yourself and you have to face the class/ friends on Monday.

a. How threatening would this situation be for you?

1	2	3	4	5
Not at all				Extremely

b. How distressing would this situation be for you?

1	2	3	4	5
Not at all				Extremely

c. How willing do you think you would be to experience these feelings of threat and/or distress without acting on them (i.e, without trying to manage them, get rid of them, suppress them or run from them etc.)?

1 2 3 4 5

Extremely Willing Completely Unwilling

d. How much control do you think you would have over this event?

1 2 3 4 5

No control Complete control

e. How important do you think it would be for you to have control over this event?

1 2 3 4 5

Not important Very important

f. What would you be most likely to think that would happen?

_____My friends are going to think I'm a party animal and fun to hang out with.

_____I'm probably going to get made fun of but everyone will probably understand.

_____It's hard to say – some people might have been mildly offended, but maybe I'm exaggerating

_____I'm pretty sure I've damaged a few friendships – things will definitely be awkward for a while.

_____I'm going to be thought of as an idiot and I've definitely ruined a lot of friendships.

g. How willing do you think you would be to accept this outcome?

1 2 3 4 5

Extremely Willing Completely Unwilling

h. If I was in this situation, I would…

	Not at all Likely				Extremely Likely
1. make plans to overcome my concerns or problems.	0	1	2	3	4
2. tell myself that other people have problems just like mine.	0	1	2	3	4
3. move on by getting involved in recreation or pleasure activities.	0	1	2	3	4
4. try to keep my mind off things that are upsetting me.	0	1	2	3	4
5. spend a lot of time thinking about my problems.	0	1	2	3	4
6. make humorous comments or tell stories about my situation.	0	1	2	3	4
7. talk with friends or relatives about my problem.	0	1	2	3	4
8. cry, even in the company of someone else.	0	1	2	3	4
9. think a lot about who is responsible for my problems (besides me).	0	1	2	3	4
10. think about how I have brought these problems on myself.	0	1	2	3	4
11. hold in my feelings.	0	1	2	3	4
12. decide to wait and see how things turn out rather than trying to change anything.	0	1	2	3	4
13. wish the situation would just go away or be over with.	0	1	2	3	4

9) The supervisor at your part-time job calls and asks you to come in to discuss your most recent evaluation.

a. How threatening would this situation be for you?

1	2	3	4	5
Not at all				Extremely

b. How distressing would this situation be for you?

1 2 3 4 5

Not at all Extremely

c. How willing do you think you would be to experience these feelings of threat and/or distress without acting on them (i.e, without trying to manage them, get rid of them, suppress them or run from them etc.)?

1 2 3 4 5

Extremely Willing

Completely Unwilling

d. How much control do you think you would have over this event?

1 2 3 4 5

No control Complete control

e. How important do you think it would be for you to have control over this event?

1 2 3 4 5

Not important Very important

f. What would you think they are most likely to say?

_____Excellent job! – We would like to give you a raise

_____You are doing well - keep it up.

_____So far so good, but there is room for improvement

_____There are some serious problems here.

_____Things just aren't working out – we have to let you go.

g. How willing do you think you would be to accept this outcome?

1 2 3 4 5

Extremely Willing Completely Unwilling

h. If I was in this situation, I would…

	Not at all Likely				Extremely Likely
1. make plans to overcome my concerns or problems.	0	1	2	3	4
2. tell myself that other people have problems just like mine.	0	1	2	3	4
3. move on by getting involved in recreation or pleasure activities.	0	1	2	3	4
4. try to keep my mind off things that are upsetting me.	0	1	2	3	4
5. spend a lot of time thinking about my problems.	0	1	2	3	4
6. make humorous comments or tell stories about my situation.	0	1	2	3	4
7. talk with friends or relatives about my problem.	0	1	2	3	4
8. cry, even in the company of someone else.	0	1	2	3	4
9. think a lot about who is responsible for my problems (besides me).	0	1	2	3	4
10. think about how I have brought these problems on myself.	0	1	2	3	4
11. hold in my feelings.	0	1	2	3	4
12. decide to wait and see how things turn out rather than trying to change anything.	0	1	2	3	4
13. wish the situation would just go away or be over with.	0	1	2	3	4

10) You have asked someone out on a date and they said "yes"; but, the next time you see them they seem distracted, in a bad mood, and essentially ignore you.

a. How threatening would this situation be for you?

1	2	3	4	5
Not at all				Extremely

b. How distressing would this situation be for you?

1	2	3	4	5
Not at all				Extremely

c. How willing do you think you would be to experience these feelings of threat and/or distress without acting on them (i.e, without trying to manage them, get rid of them, suppress them or run from them etc.)?

1	2	3	4	5
Extremely Willing				Completely Unwilling

d. How much control do you think you would have over this event?

1	2	3	4	5
No control				Complete control

e. How important do you think it would be for you to have control over this event?

1	2	3	4	5
Not important				Very important

f. What would think is the most likely reason that they are acting this way?

_____No big deal - they are just in a bad mood, and it has nothing to do with me.

_____They are in a bad mood unrelated to me, but maybe I aggravated things by appearing suddenly.

_____It's hard to say…it could be about me, but maybe not.

_____The person is now unsure about me and is feeling awkward.

_____They didn't really want to say "yes" to the date in first place and are trying to let me know.

g. How willing do you think you would be to accept this outcome?

1	2	3	4	5

Extremely Willing Completely Unwilling

h. If I was in this situation, I would…

	Not at all Likely				Extremely Likely
1. make plans to overcome my concerns or problems.	0	1	2	3	4
2. tell myself that other people have problems just like mine.	0	1	2	3	4
3. move on by getting involved in recreation or pleasure activities.	0	1	2	3	4
4. try to keep my mind off things that are upsetting me.	0	1	2	3	4
5. spend a lot of time thinking about my problems.	0	1	2	3	4
6. make humorous comments or tell stories about my situation.	0	1	2	3	4
7. talk with friends or relatives about my problem.	0	1	2	3	4
8. cry, even in the company of someone else.	0	1	2	3	4
9. think a lot about who is responsible for my problems (besides me).	0	1	2	3	4
10. think about how I have brought these problems on myself.	0	1	2	3	4
11. hold in my feelings.	0	1	2	3	4
12. decide to wait and see how things turn out rather than trying to change anything.	0	1	2	3	4
13. wish the situation would just go away or be over with.	0	1	2	3	4

Appendix I

Survey of Coping Profiles Endorsed (50-item SCOPE)

The purpose of this questionnaire is to find out how people deal with more general problems or stresses in their lives. The following are activities that you may have done. After each activity, please indicate the extent to which you would use this as a way of dealing with problems or stresses in recent weeks.

Ordinarily, in recent weeks have you:					How effective do you feel this would be in dealing with the situation?					How practical do you think this would be with the resources you have available to you?				
Never	Seldom	Sometimes	Often	Almost always	Not at all	Somewhat	Moderately	Very	Extremely	Not at all	Somewhat	Moderately	Very	Extremely
0	1	2	3	4	0	1	2	3	4	0	1	2	3	4

	Ordinarily, in recent weeks have you:					How effective do you feel this would be in dealing with the situation?					How practical do you think this would be with the resources you have available to you?				
1. accepted that there was nothing you could do to change your situation?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
2. tried to just take whatever came your way?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
3. talked with friends or relatives about your problems?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4

4. tried to do things which you typically enjoy?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
5. sought out information that would help you resolve your problems?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
6. blamed others for creating your problems or making them worse?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
7. sought the advice of others to resolve your problems?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
8. blamed yourself for your problems?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
9. exercised?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
10. fantasized or thought about unreal things (eg., the perfect revenge, or winning a million dollars) to feel better?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4

	Ordinarily, in recent weeks have you:					How effective do you feel this would be in dealing with the situation?					How practical do you think this would be with the resources you have available to you?				
11. been very emotional compared to your usual self?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
12. gone over your problem in your mind over and over again?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
13. asked others for help?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
14. thought about your problem a lot?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
15. became involved in recreation or pleasure activities?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
16. worried about your problem a lot?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
17. tried to keep your mind off things that are upsetting you?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4

18. tried to distract yourself from your troubles?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
19. avoided thinking about your problems?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
20. made plans to overcome your problems?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
21. told jokes about your situation?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
22. thought a lot about who is responsible for your problem (besides yourself)?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
	Ordinarily, in recent weeks have you:					How effective do you feel this would be in dealing with the situation?					How practical do you think this would be with the resources you have available to you?				
23. shared humorous stories etc. to cheer yourself and others up?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
24. told yourself that other people have dealt with problems such as yours?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4

25. thought a lot about how you have brought your problem on yourself?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
26. decided to wait and see how things turn out?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
27. wished the situation would go away or be over with?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
28. decided that your current problems are a result of your own past actions?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
29. gone shopping?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
30. asserted yourself and taken positive action on problems that are getting you down?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
31. sought reassurance and moral support from others?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4

32. resigned yourself to your problem?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
33. thought about how your problems have been caused by other people?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
	Ordinarily, in recent weeks have you:					How effective do you feel this would be in dealing with the situation?					How practical do you think this would be with the resources you have available to you?				
34. day-dreamed about how things may turn out?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
35. been very emotional in how you react, even to little things?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
36. decided that you can grow and learn through your problem?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
37. told yourself that other people have problems like your own?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
38. wished I was a stronger person or better at dealing with problems?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4

39. looked for how you can learn something out of your bad situation?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
40. asked for God's guidance?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
41. kept your feelings bottled up inside?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
42. found yourself crying more than usual?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
43. tried to act as if you were not upset?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
44. prayed for help?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
45. gone out?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
46. held in your feelings?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4

	Ordinarily, in recent weeks have you:					How effective do you feel this would be in dealing with the situation?					How practical do you think this would be with the resources you have available to you?				
47. tried to act as if you weren't feeling bad?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
48. taken steps to overcome your problems?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
49. made humorous comments or wise cracks?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
50. told others that you were depressed or emotionally upset?	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4

Appendix J

Automatic Thoughts Questionnaire - ATQ

Instructions: Listed below are a variety of thoughts that pop into people's heads. Please read each thought and indicate how frequently, if at all, the thought occurred to you over the last week. Please circle a response on the LEFT side of the sheet using the FREQUENCY scale:

1 = not at all 2 = sometimes 3 = moderately often 4 = often 5 = all the time

Then, please indicate how strongly, if at all, you tend to believe that thought, when it occurs. Please circle a response on the RIGHT side of the sheet using the DEGREE OF BELIEF scale:

1 = not at all 2 = somewhat 3 = moderately 4 = very much 5 = totally

Frequency	Item	Degree of Belief
1 2 3 4 5	1.) I feel like I'm up against the world.	1 2 3 4 5
1 2 3 4 5	2.) I'm no good.	1 2 3 4 5
1 2 3 4 5	3.) Why can't I ever succeed?	1 2 3 4 5
1 2 3 4 5	4.) No one understands me.	1 2 3 4 5
1 2 3 4 5	5.) I've let people down.	1 2 3 4 5
1 2 3 4 5	6.) I don't think I can go on.	1 2 3 4 5
1 2 3 4 5	7.) I wish I were a better person.	1 2 3 4 5
1 2 3 4 5	8.) I'm so weak.	1 2 3 4 5
1 2 3 4 5	9.) My life's not going the way I want it to.	1 2 3 4 5
1 2 3 4 5	10.) I'm so disappointed in myself.	1 2 3 4 5
1 2 3 4 5	11.) Nothing feels good anymore.	1 2 3 4 5
1 2 3 4 5	12.) I can't stand this anymore.	1 2 3 4 5
1 2 3 4 5	13.) I can't get started.	1 2 3 4 5
1 2 3 4 5	14.) What's wrong with me?	1 2 3 4 5
1 2 3 4 5	15.) I wish I were somewhere else.	1 2 3 4 5

1 2 3 4 5	16.) I can't get things together.	1 2 3 4 5
1 2 3 4 5	17.) I hate myself.	1 2 3 4 5
1 2 3 4 5	18.) I'm worthless.	1 2 3 4 5
1 2 3 4 5	19.) Wish I could just disappear.	1 2 3 4 5
1 2 3 4 5	20.) What's the matter with me?	1 2 3 4 5
1 2 3 4 5	21.) I'm a loser.	1 2 3 4 5
1 2 3 4 5	22.) My life is a mess.	1 2 3 4 5
1 2 3 4 5	23.) I'm a failure.	1 2 3 4 5
1 2 3 4 5	24.) I'll never make it.	1 2 3 4 5
1 2 3 4 5	25.) I feel so hopeless.	1 2 3 4 5
1 2 3 4 5	26.) Something has to change.	1 2 3 4 5
1 2 3 4 5	27.) There must be something wrong with me.	1 2 3 4 5
1 2 3 4 5	28.) My future is bleak.	1 2 3 4 5
1 2 3 4 5	29.) It's just not worth it.	1 2 3 4 5
1 2 3 4 5	30.) I can't finish anything.	1 2 3 4 5