

AN ABSTRACT OF THE THESIS OF

Hsiao-Fang (June) Huang for the degree of Master of Arts in Interdisciplinary Studies in Psychology, Psychology, and Philosophy presented on February 13, 2004.

Title: Stress and Well-being: Self-esteem, Self-efficacy, Rumination, Reflection, & Religion.

Abstract approved:

Redacted for Privacy

Marjorie A. Reed

Depression has been one of the most prevalent psychological disorders. Its relationship with life events is reviewed in light of factors influencing the relationship such as self-esteem, attributional styles, and cognitive complexity. The mechanism of depression and its links with personality disorders are looked at in relation to anxiety. The role of self-awareness in therapy is discussed along with the dynamic of change and the emotion component in psychoanalytic, Adlerian, existential, gestalt, person-centered, and cognitive psychotherapies. In addition, self-awareness is also highlighted in terms of hardiness, openness to experience, and a sense of salvation. A survey was conducted focused on the relationship between stress and well-being. Self-esteem, self-efficacy, rumination, reflection, and religion were examined as possible moderators or mediators of the relation between life events and well-being in predominantly white female college students. Life events were analyzed in terms of perceived stressfulness, objective severity of events, and controllability of events. Well-being was measured as depression, total symptoms, and life satisfaction. Self-esteem was found to buffer the negative impact of life events. Self-efficacy, on the other hand, created a susceptibility to their negative impact. Reflection buffered the negative effect of rumination on life satisfaction. Religion was also found to moderate the relationship between events and well-being. Self-esteem and rumination mediated this relationship. Limitations of the present study and suggestions for future research are discussed.

Stress and Well-being: Self-esteem, Self-efficacy,
Rumination, Reflection, & Religion

by
Hsiao-Fang (June) Huang

A THESIS
submitted to
Oregon State University

in partial fulfillment of
the requirements for the
degree of
Master of Arts in Interdisciplinary Studies

Presented February 13, 2004
Commencement June 2004

Master of Arts in Interdisciplinary Studies thesis of Hsiao-Fang (June) Huang
presented on February 13, 2004.

APPROVED:

Redacted for Privacy

Major Professor, representing Psychology

Redacted for Privacy

Committee Member, representing Psychology

Redacted for Privacy

Committee Member, representing Philosophy

Redacted for Privacy

Head of the Department of Psychology

Redacted for Privacy

Dean of the Graduate School

I understand that my thesis will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my thesis to any reader upon request.

Redacted for Privacy

Hsiao-Fang (June) Huang, Author

ACKNOWLEDGEMENTS

The author expresses sincere appreciation for the enormous time and thoughts of Dr. Marjorie Reed on revising the initial drafts of the thesis. The improvement of the thesis is attributed to her insightful comments and suggestions. The appreciation also goes to her encouragement during the whole process of conducting the survey and writing the thesis. The author is grateful for having Dr. John Gillis in the committee, who taught Psychotherapy and Abnormal Psychology class in the most insightful, inspiring and interesting way, which led to the ideas of the thesis as well as to the research interest for the author's Ph.D. study in counseling. Thank Psychology Department for purchasing the Achenbach Adult Self-Report Form. Thank Dr. Flo Leibowitz, who is enthusiastic in life, teaching and interacting with students, for bringing in different perspectives from philosophy to the psychology discussion of spirituality. Dr. Michelle Bothwell is appreciated for being the Graduate Council Representative, and for her interest in and comments on the ideas of the thesis. Finally, the author appreciates the kindness of the committee in the final defense and their participation of the author's studying life here.

TABLE OF CONTENTS

	<u>Page</u>
1. An Overview of Depression	1
1.1 Depression	1
1.2 Psychotherapy	6
1.3 Cognition	8
2. A Survey on Life Events and Well-being	11
2.1 Literature Review	11
2.2 Method	15
2.3 Results	17
2.4 Discussion	26
2.5 Conclusion	32

LIST OF FIGURES

<u>FIGURE</u>	<u>Page</u>
2.1 The moderating effect of self-esteem (in solid line) interacting with perceived stress, objective severity of events, and controllability of negative events on depression and total symptoms; the mediating effect of self-esteem (in broken line) from perceived stressfulness to depression, life satisfaction, and total symptoms	28
2.2 The impact of self-efficacy interactions with objective severity of events and controllability of negative events on depression and total symptoms	29
2.3 The moderating effect of rumination (in solid line) interacting with perceived stressfulness on depression, and with reflection on life satisfaction; the mediating effect of rumination (in broken line) between perceived stressfulness, and depression, life satisfaction, and total symptoms	30
2.4 The impact of religion interaction with overall controllability of events on depression and life satisfaction	31

LIST OF TABLES

<u>TABLE</u>	<u>Page</u>
2.1 Correlations between perceived stressfulness, objective severity of events, controllability of events, self-esteem, self-efficacy, rumination, reflection, religion, depression, total symptoms, and life satisfaction	18
2.2 The effect of the interactions of perceived stressfulness and objective severity of events with self-esteem, self-efficacy, and rumination on depression and total symptoms	19-20
2.3 The effect of the interactions of overall controllability of events and controllability of negative events with self-esteem, self-efficacy, and religion on depression, total symptoms, and life satisfaction	22
2.4 The effect of the interaction between rumination and reflection on life satisfaction	23
2.5 The mediating effect of self-esteem and rumination from perceived stressfulness to depression, total symptoms, and life satisfaction	24-25

Stress and Well-being: Self-esteem, Self-efficacy,
Rumination, Reflection, & Religion

Chapter 1 An Overview of Depression

Life events have been associated with stress. Research has been done to identify factors that involve influencing the relationship between events and stress such as learned helplessness that is linked to controllability (for review see Stokols, 1985). However, how does a similar level of stress lead to different levels of distress in different people? This chapter aims to explore the relationship between life events and well-being by looking at the disorder, depression, in light of its relationship with life events, factors influencing the relationship such as self-esteem, attributional styles, and cognitive complexity, and its mechanism and link with personality disorders in relation to anxiety. The chapter will also discuss the aspect of self-awareness, the dynamic of change, and the emotion component in psychoanalytic, Adlerian, existential, gestalt, person-centered, and cognitive psychotherapies. In addition, the effectiveness of therapy will be looked with mental disorders. The cognitive aspect in cognitive therapy will be highlighted in terms of hardiness, openness to experience, and a sense of salvation in relation to self-awareness.

1.1 Depression

The relationship between life events and depression has been well documented (Paykel, Myers, Dienelt, Klerman, Lindenthal, & Pepper, 1969; Brown, 1998; Friis, Wittchen, Pfister, Lieb, 2002). On one hand, the causal direction is seen as predominantly from life events to depression. On the other hand, it has also been stated that depressives may be accountable for their own stress from events, which at least partially depend upon their own behaviors (i.e., namely dependent events) (Fergusson & Horwood, 1986; Simons, Angell, Monroe, & Thase, 1993; Harkness, Monroe, Simons, & Thase, 1999). For example, they may distort interpersonal relationships, which in turn impairs social support, or they may create personal conflicts and social isolation (Cui & Vaillant, 1997). There has been debate over the causal link from depression to life events (Shrout, Link, Dohrenwend, Skodol, Stueve, & Mirotznik, 1989) and over the cycle of life events, depression, more negative dependent events, and recurrent depression (Finlay-Jones, 1981; Hirschi & Selvin, 1973; Susser, 1973). It has also been suggested that life events are epiphenomenal, and not causal to depression (Parker, Hadzi-Pavlovic, Roussos, Wilhelm, Mitchell, Austin, Hickie, Gladstone, & Eysers, 1998). It may be important to distinguish between

factors increasing vulnerability to depression and the phenomenon of depression (Shaw, 1985). This idea conceptually parallels the distinction between depressive schemata (“symptomatic aspects of depression which perpetuate dysphoria”) and vulnerability schemata (“etioloical aspects that render an individual at risk for depression”) (p. 37, Hammen, 1985).

It was found that personally relevant events that were linked to self-esteem predicted depression (Hammen, Ellicott, & Gitlin, 1989). Personally relevant events indicate a personal vulnerability in that interpersonal events had the greatest effect on those that highly needed approval and reassurance (Mazure, Maciejewski, Jacobs, & Bruce, 2002). Events that were linked to depression included marital difficulties, death and illness, and work changes (Paykel et al., 1969). Of those, death and illness are not self-esteem related. It could be that some depressive symptoms are reactive (neurotic) as a result of event-stress, and others are endogenous (psychotic) as a result of processes within the organism (Kiloh, Andrews, Neilson, & Bianchi, 1972; Cooke, 1981). In other words, reactive depression tends to be environmentally elicited (i.e., state-dependent), whereas endogenous depression is trait-originated. The common symptoms of endogenous depression are typically hopelessness, joylessness, and insomnia, while the symptoms of reactive depression are hypersomnia and hypochondriasis (Gupta, Wig, Rao, Chawla, Khandelwal, & Varma, 1986). Reactive and endogenous depression did not differ in symptoms of anxiety (Gupta et al., 1986). Moreover, reactive depression was associated with better outcomes than the endogenous version in terms of relapse and lengths of institutional care (Copeland, 1983).

Factor analyses of the CES-D (Center for Epidemiologic Studies Depression) scale demonstrated separable factors of depressed affect, positive affect, somatic and retarded activity, and interpersonal problems (Radloff, 1977). Depression is not equal to having dysfunctional attitudes but rather perceptions of events mediated the pathway from negative events and dysfunctional attitudes to depression (Robins, Block, & Peselow, 1990). Perceptions of events were described in terms of the upsettingness of the event, degree of change, internality, stability, globality, intentionality, controllability over effects and occurrence of events, and social support availability (Robins et al., 1990). The upsettingness of the event is equal to what is conceptualized as desirability in other studies, and internality is conceptually equal to locus of control (Anderson & Arnoult, 1985). Degree of change is conceptually close to what Social Readjustment Rating Scale measures, the degree of readjustment that each event requires (Holmes & Rahe, 1967). Social support was found to moderate the relationship between stress and depression (Brookings & Bolton, 1997; Pengilly & Dowd, 2000). To summarize, degree of

change, attributional styles, and social support are critical for the development of depression as a result of event-stress.

Attributional styles interacted with mature defense styles (“suppression, task orientation, anticipation, sublimation, and humor”) in which the impact of a negative attributional style on depressive symptoms was reduced by a high use of mature defenses, and both negative attributional styles and immature defense styles (“projective identification, passive aggression, acting out, splitting, regression, and denial”) independently contribute to depressive symptoms (p. 727, Kwon & Lemon, 2000). Attributional styles indicate “inferences about causes, consequences, and implications for self-concept of a negative event,” while dysfunctional attitudes are maladaptive cognitions that include “concerns with evaluation, perfectionistic standards of performance, causal attributions, and rigid ideas about the world” (p. 8, Haefffel, Abramson, Voelz, Metalsky, Halberstadt, Dykman, Donovan, Hogan, Hankin, & Alloy, 2003). Of the two, only attributional styles were significantly related to depression and anxiety (Haefffel et al., 2003). Although dysfunctional attitudes were found to neither moderate nor mediate the relationship between stress and distress, higher levels of distress were associated with higher levels of dysfunctional attitudes (Gillis & Lanning, 1989; Gillis, 1992). Maladaptive cognitive schemas (defectiveness/shame, failure, subjugation, and vulnerability to harm or illness) in people with the self-defeating personality (“doleful mood, undeserving self-image, and a self-sacrificing interpersonal style”) created vulnerabilities to depression (p. 184, Petrocelli, Glaser, Galhoun, & Campbell, 2001). Maladaptive avoidant and paranoid beliefs, rather than personality disorder status (absent or present) or dependent, obsessive-compulsive, and narcissistic beliefs, predicted the outcome of cognitive therapy in the treatment of depression (Kuyken, Kurzer, DeRubeis, Beck, & Brown, 2001). Specifically, cognitive avoidance rather than behavior avoidance moderated the relationship between negative life events and symptoms of depression and anxiety in females (Blalock & Joiner, Jr., 2000).

Depression influenced levels of cognitive complexity in that depressed people tended to use more different constructs (positive adjectives and evaluative valence) to describe the same person (persons in important roles, an important other, or the self) than non-depressed people (Oliver & McGee, 1982). This suggests a cognitive style of piecemeal processing, which requires more effort (evaluate for likability before categorize stimulus people by major), than category processing (categorize by major before evaluate stimulus people for likability and typicality) is used in the depressed (Edwards & Weary, 1993). The tendency to engage in more effortful and vigilant piecemeal processing might stem from “depressives’ expectations of uncontrollability

over life events” (p. 642, Edwards & Weary, 1993). Depression and low self-esteem were associated with higher attributional complexity (Flett, Blankstein, Occhiuto, & Koledin, 1994). This association may result from attributional uncertainty, which might protect low self-esteem “in a manner that suggests a lack of perceived controllability over the causes of negative events” (p. 278, Flett et al., 1994). Hence, a sense of control seems to contribute to influencing cognitive styles and attributional complexity in depression.

While depression was associated specifically with the area of bereavement, neurosis was found to be related to multiple stressful life events (Bhatti & Channabasavanna, 1985). According to DSM-I and -II (Diagnostic and Statistical Manual of Mental Disorders), anxiety is the chief characteristic of neurosis (Emery & Oltmanns, 2000). The mechanism of neurosis was evolved from physical afflictions (Cullen), moral disorders (Pinel), unconscious defense (Freud), to feelings of inferiority (Adler) (Bhatti & Channabasavanna, 1985). Neurotics tend to have excessive dependence on the approval (i.e., excessive sensitivity to disapproval), the need for affection of others but the incapacity of feeling or giving, and inhibitions (Horney, 1937). Neurotics also have the incapacity to identify and articulate thoughts and feelings (Masterson, 1987). These identified vulnerable characteristics are essentially interpersonal and thus related to self-worth, in that the core of self-worth comes from self-identity that is established in interpersonal relationships. Neurosis may be a disorder of distorted self-identity in which neurotics tend to have unstable self-esteem. Indeed, neurotics have difficulty regulating self-esteem (Masterson, 1987) or may seemingly inflate their self-esteem by inflating their own significance (Kohut, 1971; Kohut & Wolf, 1978; Masterson, 1992). The lability of self-esteem is a reaction to one’s environment. This reactivity indicates neurotic aspect of vulnerable self-esteem (Butler, Hokanson, & Flynn, 1994; Roberts & Kendler, 1999; Judge, Erez, Bono, & Thoresen, 2002). Moreover, this instability of self-esteem has been identified as a factor associated with vulnerability to depression (Kernis, Grannemann, & Mathis, 1991; Gable & Nezlek, 1998; de Man, Becerril Gutierrez, & Sterk, 2001; Paradise & Kernis, 2002).

While anxiety and depression share the symptom of negative affect, physiological hyperarousal is specific to anxiety and low positive affect is specific to depression (Clark & Watson, 1991). Levels of positive affect and negative cognitive reappraisal predicted depression (Valiant, 1993). Negative affect may reflect the general distress of anxiety and depression, while low positive affect indicates the two unique symptoms of depression: loss of interest and loss of pleasure (anhedonia) (Cox, Taylor, & Enns, 1999). Reactive depression and anxiety share the symptom of hyperarousal, but it results from different mechanisms. The essence of anxiety is fear,

while depression is essentially the emotion of sadness (Emery & Oltmanns, 2000). It is proposed that depression is influenced by the interplay between affect and cognition on which behavior has an impact, whereas phobic anxiety is by the interplay between affect and behavior on which cognition has an impact (Eifert & Craill, 1989). It is suggested that the mechanism of anxiety is helplessness in controlling future outcomes with uncertainty about the helplessness. Mixed anxiety-depression follows when one is certain about helplessness, but still uncertain about future outcomes. Finally, hopelessness occurs in depression when one is certain about future negative outcomes; in other words, hopelessness is "helplessness plus a negative outcome expectation" (p. 73, Alloy, 1991). This implies that depression and anxiety are fundamentally cognitive (Alloy, 1991).

Tyrer (1991) contends that a disorder is manifested in its symptoms that are associated with personality diathesis and in turn interact with life events. Depression was expected to be linked with borderline personality, whereas neurosis was thought to be associated with dependent personality (Tyrer, 1991). The latter association has been supported empirically, specifically with anxiety sensitivity (Tyrer, 1991; Lilienfeld & Penna, 2001). Dependent personality is conceptually parallel to the characteristics of sociotropy "concern about disapproval, fear of separation/abandonment, and a high investment in interpersonal relationships" which is associated with depression (p. 216, Mazure, Raghavan, Maciejewski, Jacobs, & Bruce, 2001). Borderline personality is characterized as the instability of self-image, mood, and interpersonal relationships (Tyrer, 1991; Emery & Oltmanns, 2000). Neuroticism was found to best distinguish between borderline and non-borderline patients (Morey & Zanarini, 2000). Neuroticism dimensions included anxiety, anger hostility, depression, self-consciousness, impulsiveness, and vulnerability in which self-focused rumination and a distractive response style were significantly related to anxiety and depression dimensions, whereas symptom-focused rumination was not related to any of the dimensions of neuroticism (Bagby & Parker, 2001). The latter non-significant correlation conflicts with Nolen-Hoeksema et al.'s (1993) conceptualization of rumination as an individual paying intense attention to his/her symptoms.

In addition, depression was found to be related to obsessive-compulsive and avoidant personality disorders (Fava, Farabaugh, Sickinger, Wright, Alpert, Sonawalla, Nierenberg, & Worthington, 2002). Cluster C personality disorders (avoidant, dependent, and obsessive-compulsive types) were found to hinder recovery from depression (Viinamaki, Hintikka, Honkalampi, Koivumaa-Honkanen, Kuisma, Antikainen, Tanskanen, & Lehtonen, 2002). People that had depression in childhood were more likely to display dependent, antisocial,

passive-aggressive, and histrionic personality disorders in adulthood than those without a prior major depressive disorder (Kasen, Cohen, Skodol, Johnson, Smailes, & Brook, 2001).

Rumination may be essentially an obsessive attempt to gain the sense of control that is lack in depression. Rumination is conceptually related to “emotion-focused coping, self-criticism, and negative affectivity-temperament” (p. 376, Kasch, Klein, & Lara, 2001). Negative temperament and self-criticism rather than rumination predicted depression. This does not support the idea that rumination is a trait-like attribute, in that rumination changes with the course of depression (Kasch et al., 2001). This implies rumination as a function of depression rather than a cause. This is compatible with Nolen-Hoeksema et al.’s (1993) conceptualization of rumination as a symptom of depression that affects the duration of depressed mood.

Depression was found to be associated with the tendency to recall emotionally negative words, but not with a bias in selective attention to self-esteem threatening stimuli (Hill & Dutton, 1989). The depressed people were reported not to have a bias for encoding and recognizing either positive or negative stimuli, whereas the controls had a bias favoring positive stimuli (Deldin, Keller, Gergen, & Miller, 2001). Such biases were related to trait anxiety and Beck Depression Inventory but not to state anxiety. The question of a mood-state pattern specific to depression was raised in which automatic thoughts and self-esteem were also mood-state dependent in the remitted dysphorics but not in those who had never been dysphoric (Roberts & Kassel, 1996). Like rumination, negative automatic thoughts and low self-esteem also seem to be a function of depression rather than a cause.

2.2 Psychotherapy

Self-awareness: The Core of Therapy

Explicitly or implicitly, psychoanalytic, Adlerian, existential, gestalt, person-centered, and cognitive therapies all emphasize self-awareness. For psychoanalytic therapy, the cure results from *intellectual awareness* of repressed conflicts from the past. Adlerian therapy is based on the idea that people are driven by feelings of inferiority to strive for significance, and holds that unless personal goals are based on social interests are they fictional. This implies that an understanding of the motivations in one’s life is crucial. In existential, gestalt, and person-centered therapy, awareness precedes all of the therapeutic goals. Existential therapy values freedom and responsibility, and encourages the search for meaning to live fully through self-awareness. Gestalt therapy emphasizes the contact (awareness) with unexpressed feelings as resulting from *unfinished business* from the past. Person-centered therapy aims to help

individuals to be fully functioning persons through self-actualization. Self-actualization is a congruence of ideal and actual self. In cognitive therapy, being aware of one's own thoughts is the therapeutic goal, so that distorted and irrational thoughts can be refuted. Cognitive therapy challenges the individual's irrational and false beliefs with a rationale that emotions and behaviors are not influenced by events directly, but by what individuals think about them. Hence, promoting self-understanding and insight is the shared and critical goal across the therapies. (Corey, 2001; Dowd & Kelly, 1980; Greenwald, 1972; Tobin, 1991).

The Dynamic of Change

Different therapies propose different mechanisms for the way change comes about. For psychoanalytic therapy, change is difficult to achieve unless individuals gain some insights into their past through uncovering unconscious motivations and emotions. Adlerian therapy emphasizes the encouragement from therapists for clients to change their goals to be more adaptive and grounded in social interest. Existential and person-centered therapies put a trust in the individual's capacity to change. For existential, gestalt, and person-centered therapies, awareness is critical for change. For gestalt therapy, change is inevitable for individuals, following the contact with their environment. Thus, the change is through the integration of external and internal worlds in gestalt therapy. In cognitive therapy, being directive is important for reeducation of clients to change their irrational thoughts. (Corey, 2001; Tobin, 1991). It seems that the dynamic of change indicates cognitive, interpersonal, or interdependent dimensions.

The Component of Emotion in Therapy

People have emotions and they are not always rational. It has been suggested that therapy may work by reducing the impact of dysfunctional attitudes on mood rather than changing dysfunctional attitudes (Burns & Spangler, 2001). Person-centered therapy emphasizes the recognition of one's own feelings and emotions. The concept of reexperience in gestalt therapy states explicitly focuses on emotional components. Nevertheless, not all of the six therapies place an explicit emphasis on emotion. For psychoanalytic therapy, past emotion may be so repressed that it is critical to uncover and recognize the emotion. In cognitive therapy, it is the rational of event-cognition-emotion/action such that events have an impact on emotion and action through cognition. Note that reexperience or the focus on cognition, however, all involves feelings, thoughts, and interpretations of *the present*. What individuals *think* and how they *feel* about the past are more important than what they *thought* and how they *felt* in that what can be changed is in the present. (Beck, Rush, Shaw, & Emery, 1979; Corey, 2001; Greenwald, 1972).

Mental Disorders

While research suggests there is no significant difference in the overall effectiveness of different psychotherapies (e.g., Lindfors, Hannula, Aalberg, Kaarento, Kaipainen, & Pylkkanen, 1995), research also suggests that some therapies are more effective than others for treating different disorders (Emery & Oltmanns, 2000). Cognitive and interpersonal therapies work best for depression. Exposure (systematic desensitization and flooding) and cognitive therapies are effective for anxiety and specific phobias. Cognitive therapy, exposure, and response prevention work well for obsessive-compulsive disorder. Applied relaxation and cognitive therapies are effective for generalized anxiety disorder. Cognitive therapy works for panic disorder, agoraphobia, and social phobia. Reexposure (trauma desensitization) helps with acute and posttraumatic stress disorders (ASD and PTSD). Cognitive therapy is best for borderline personality disorder. (Emery & Oltmanns, 2000). All in all, exposure, reexposure, response prevention, applied relaxation, relapse prevention, and social skills training are components of behavioral therapy that focuses on problems or symptoms. Cognitive, behavioral, or the combination of cognitive-behavioral therapy seems to be most broadly effective for disorders related to anxiety and depression.

2.3 Cognition

The essence of cognitive therapy is to empower an individual to make changes to decrease his or her distress. Studies have attempted to identify factors, such as hardiness and openness to experience, which explained the relationship between negative life events and low distress (Cassidy, 2000; Eronen & Nurmi, 1999). Associations were found between life events and stress, and stress and symptoms rather than life events and symptoms (Norris & Murrell, 1984), in the sense that stress played a role influencing the impact of life events on symptoms. Stress, however, is not equal to distress and is subjective perception. What people think about experiences they had, rather than experiences per se, contribute to the consequences. This section will look at the two factors, hardiness and openness to experience, in relation to self-awareness. Self-awareness will also be discussed in relation to a sense of salvation.

Hardiness was defined as including dimensions of commitment (active involvement), control (inner locus of control), and challenge (a view of change as an opportunity) (Kobasa, 1979; Callahan, 2000). Studies on the effect of hardiness moderating stress have been inconsistent (for review see Wiebe, & Williams, 1992). The commitment dimension moderated the relationship between stress and depression in which people high in commitment scored similarly on the depression measure regardless the level of stress (Pengilly & Dowd, 2000). Hardiness has

also been referred as stress resilience (Beasley, Thompson, & Davidson, 2003), stress resistance (Huang, 1995), and stress buffers (Sinclair & Tetrick, 2000). Hardiness affected coping resources (more self-competence), cognitive appraisal (less threatening), cognitive response (more positive affect), and frustration tolerance (higher tolerance) (Wiebe, 1991; Solcova & Tomanek, 1994). Hardy individuals tended to regard life events as less stressful and more under their control than their less-hardy counterparts (Rhodewalt & Agustsdottir, 1984). Hardiness buffered the impact of negative life events on psychological health (Beasley, et al., 2003). Hardiness and stress had independent impacts on distress (Chan, 2000). Moreover, the positively worded items of hardiness were found to be distinct from neuroticism (Sinclair & Tetrick, 2000).

Hardiness may explain the positive correlation between the number of life events and health ratings, and the negative correlation between the number of life events and perceived stress, in the sense that the number of life events seemed to “contribute more to hardiness than to vulnerability” (p. 293, Cassidy, 2000). Openness to experience is another cognitive dimension that influences the relation between life events and distress. It includes dimensions of fantasy, aesthetics, feelings, actions, ideas, and values (McCrae, 1993). Openness to actions negatively contributed to predicting depression while openness to fantasy contributed positively (Carrillo, Rojo, Sanchez-Bernardos, & Avia, 2001). This might explain the statistically higher reported rate of depression in women, who scored higher than men in openness to fantasy (Carrillo et al., 2001). In addition, openness to aesthetics and feelings were found to be positively related to depression (Wolfenstein & Trull, 1997). Three facets of openness, fantasy, aesthetics, and feelings, may be risk factors for depression. In contrast, the other three, actions, ideas, and values, may have a protective effect. The latter three facets may be the components in openness to experience that might explain the low level of depression, the optimism, the approach type of coping, and self-serving attributional bias in those that experienced many positive and many negative life events (Eronen & Nurmi, 1999). Of those, openness to ideas and values is similar to the concept of reflection.

The challenge dimension of hardiness (a view of change as an opportunity) is conceptually close to the facet of openness to actions. It may be true that openness to actions allows the individual to actually bring about change, and that openness to ideas and values facilitates the self-awareness that is critical for therapeutic change and growth. This is the essence of how cognitive psychotherapy works. When individuals are open to ideas and values, they may turn stress into strength by gaining insights into their problems. Cognitive psychotherapy claims that affect is postcognitive (Gillis, 1992). This is not to say that cognitive psychotherapy ignore

emotion altogether. Rather, it stresses the role cognition plays in influencing emotion. Past emotions may be recognized and explored intellectually. Self-awareness is reached through self-exploration that is likely accompanied by emotional discomfort. A sense of salvation may first require destruction in some respects (Sontag, 1984). Salvation and awareness are essentially going beyond the past, akin to the symbolic existence of “rebirth” (Rutherford, 1999). Accordingly, self-awareness and salvation are affect-based and cognition-enhanced.

In a secular sense, salvation is to free oneself from suffering. A sense of salvation comes from an individual’s inner state of awareness or belief that he or she has the power to turn stress into distress or eustress. The occurrence of a stressful event was found to be associated with a universalistic spiritual orientation, which refers to seeing the world as one’s own community (James & Samuels, 1999). Stressful life events may enhance spiritual growth. Reality is perceived. It exists for individuals when they believe in it. Likewise, feelings of suffering or salvation are brought about by an individual’s perception, rather than any objective standard. There is no salvation outside the church (Hick, 1988). Likewise, there is no salvation outside cognition. Symbolically, religion is what people want to believe in, so it exists for them. “Our cure is blocked by our belief” (p. 324, Sontag, 1984). An intellectual self-awareness, in which individuals are open to ideas and values, may allow them to find their own way of being and create their own meanings of life. The individual defines its own suffering or salvation in a manner that either is a choice.

The next chapter will be devoted to reporting a survey on life events and well-being. The survey was designed to learn more about the relationship between event-stress and general well-being. Specifically, stress was measured in terms of perceived stressfulness, objective severity of events, and controllability of events. Depression was one of the well-being measures, in addition to self-reported symptoms and life satisfaction. Cognitive aspects that were expected to influence the relationship between life events and well-being included self-esteem, self-efficacy, rumination, reflection, and the intrinsic aspect of religion. Self-esteem and self-efficacy may reflect some dimensions of hardiness such as self-esteem reflecting self-confidence for challenge (a view of change as an opportunity), and self-efficacy reflecting beliefs for control (internality of attributional styles). Rumination was expected to be related to depression, such that it increases the likelihood of depression. Reflection, on the other hand, may be conceptually close to self-awareness, openness to ideas and values, and was expected to interact with rumination. Finally, a religion component was included in which the intrinsic dimension of religion may reflect the concept of spirituality and self-awareness.

Chapter 2 A Survey on Life Events and Well-being*

2.1 Literature Review

Life Events & Well-being

Stress as a result of life change or negative life change has been associated with medical illness, psychological help-seeking and academic failures (Linden, 1984), or anxiety, depression, lower levels of perceived control and adjustment (Johnson & McCutcheon, 1980). There has been controversy over how life events should be measured (Tausig, 1982). The issue has been over whether to use objective (Holmes & Rahe, 1967; Dohrenwend, Askenasy, Krasnoff, & Dohrenwend, 1978), desirability (Ross & Mirowsky II, 1979), or controllability ratings (Eronen & Nurmi, 1999). Objective ratings such as Social Readjustment Rating Scale (SRRS) measure the degree of readjustment required by each event averaged across many people (Holmes & Rahe, 1967). SRRS has been validated and revised (Bieliauskas & Webb, 1974; Kipper & Furcon, 1981; Hobson, Kamen, Szostek, Nethercut, Tiedmann, & Wojnarowicz, 1998; Hobson & Delunas, 2001). Psychiatric Epidemiology Research Interview (PERI) Life Events Scale (another objective measure) is based on averaged ratings of stressfulness from stratified samples that had heterogeneous characteristics (Dohrenwend et al., 1978).

Desirability distinguishes between positive and negative events. However, some undesirable events (e.g., marital separation) have positive effect, some desirable events (e.g., started school or began training program) have negative effects, and some events (e.g., retirement) are ambiguous in desirability (Ross & Mirowsky II, 1979). Stressfulness ratings were found to be a better predictor of mental health symptoms than undesirability ratings (Ross & Mirowsky II, 1979). Dependent events are those where individuals have at least partial control, while some other negative events such as death and illness are things that happen to people and are less likely to be controlled by individuals (Eronen & Nurmi, 1999). Undesirable uncontrollable events were associated with the occurrence of illness (Suls & Mullen, 1981). Desirable events are typically high in controllability such as engagement or graduating from university (Eronen & Nurmi, 1999). People that had many negative and few positive events reported low well-being in attributional style, self-esteem, and depression (Eronen & Nurmi, 1999). Given that both positive and negative events could be stressful and the level of stress is perceived, it is expected that subjective ratings of stress regardless of desirability are better predictors of general well-being than objective

* This research was approved by the Institutional Review Board at Oregon State University with protocol no. 2223 and an approval date of May 17th, 2003.

ratings.

Self-esteem

Low or negative self-esteem has been associated with depression, anxiety (Brown, Andrews, Bifulco, & Veiel, 1990), negative close relationships (Brown, Bifulco, Veiel, & Andrews, 1990), poor improvement of psychiatric symptoms (Brown, Bifulco, & Andrews, 1990), and mood-congruent recall with an induced negative emotion (Smith & Petty, 1995). Self-esteem moderates the impact of perceived inequity in intimate relationships on depression (Longmore & Demaris, 1997). Moreover, changes in self-esteem as a result of negative life events led to changes in feedback-seeking in which those that experienced decreased self-esteem sought negative feedback to confirm their lower self-esteem (Pettit & Joiner, 2001). Self-esteem seems to be liable to fluctuate with life events. Self-esteem is influenced immediately after positive or negative life events are introduced but the effect fades away one year later (Eronen & Nurmi, 1999). On one hand, the onset of depression is only predicted by the lowering self-esteem from negative life events (Eronen & Nurmi, 1999). In other words, life events do not cause depression directly but rather through self-esteem as a mediator (Wilson & Krane, 1980). On the other hand, lower self-esteem is not a necessary condition for depression to occur (Tripp et al., 1997; Abramson et al., 1978). Reversely, depression was found to have an impact on self-esteem (Tripp, Catano, & Sullivan, 1997). Self-esteem seems to play both moderating and mediating roles in the relation between life events and depression, and has a reciprocal relationship with depression.

Self-efficacy

Self-efficacy is also a dynamic aspect of the self-concept (Tillema, Cervone, & Scott, 2001). Although it is a belief about individual abilities to accomplish goals, self-efficacy is influenced by performance standards and other factors such as depression (Maciejewski, Prigerson, & Mazure, 2000). For people with prior depression, dependent life events (over which individuals had some control) directly account for 60% of the impact on depression and self-efficacy as a mediator indirectly accounts for 40% (Maciejewski et al., 2000). On the other hand for people without prior depression, neither independent (low controllability) nor dependent (high controllability) events have an impact on self-efficacy, but instead influence depression directly (Maciejewski et al., 2000). In other words, self-efficacy plays a role in the effect of dependent events on depression only in people with prior depression. In the present study, self-efficacy will be examined for both moderating and mediating effects in relationships between life events and various outcome measures. Self-efficacy is expected to be liable to fluctuation along with life events and outcome measures such as depression.

Rumination & Reflection

Studies have identified positive and negative ways of thinking such as reflection and rumination (Nolen-Hoeksema, Morrow, & Fredrickson, 1993; Reeves, Watson, Ramsey, & Morris, 1995; Grant, Franklin, & Langford, 2002). The effect of self-reflection on psychological well-being in habitual mood and life satisfaction was found to depend on the positive or negative self-aspects on which individuals reflected (Hoyer & Klein, 2000). Positive and negative cognition have been described with different terms in different studies. The construct of self-consciousness includes private self-consciousness, public self-consciousness, and social anxiety in which private self-consciousness was sub-divided into Self-Reflectiveness and Internal State Awareness (Reeves et al., 1995; Fenigstein et al., 1975). Only Self-Reflectiveness is related to attributional complexity, depression, and social anxiety (Reeves et al., 1995). Self-reflection was also distinguished from insight in which the former was positively related to anxiety and stress while the latter was associated with cognitive flexibility and self-regulation (Grant et al., 2002). Self-Reflectiveness or self-reflection, accordingly, seems to be conceptually what is identified as rumination in other studies (Nolen-Hoeksema et al., 1993; Trapnell & Campbell, 1999).

Rumination is mostly focused on negative affect (e.g., “think about how alone you feel”) (Nolen-Hoeksema, 1996; Treynor, Gonzalez, Nolen-Hoeksema, in press), and seems to possess an *obsessive* component such as “Sometimes it is hard for me to shut off thoughts about myself” and “My attention is often focused on aspects of myself I wish I’d stop thinking about” (Trapnell & Campbell, 1999). Reflection, on the other hand, suggests a *pleasant* component such as “I love exploring my ‘inner’ self” and “My attitudes and feelings about things *fascinate* me” [italics added] (Trapnell & Campbell, 1999). Reflection and rumination are differentiated by affect, positive for reflection and negative for rumination, and by motivation, curiosity for reflection and fear for rumination (Trapnell & Campbell, 1999). Reflection can be conceptualized as “interest in the self” (p. 292, Trapnell & Campbell, 1999; Guilford, 1975) and rumination may be as “absorption in the self.” Reflection seems to pertain to intellectual understanding of one’s feelings and meanings of things, whereas rumination does not seem to get to insights. Four cognitive styles are suggested through the coping and adjustment literature: high rumination and reflection referred to as sensitizing, low rumination and reflection as repressive, high rumination and low reflection as vulnerable, and low rumination and high reflection as adaptable (Trapnell & Campbell, 1999; Preece, DeLongis, Campbell, & Trapnell, 1998). Reflection in husbands was found to buffer the effect of rumination in wives on depression (Trapnell & Campbell, 1999:

Preece et al., 1998). Rumination was identified as a mediator of anxiety sensitivity that responds to depressed mood (Cox, Enns, & Taylor, 2001), and was found to enhance the duration of depression as a moderator (Nolen-Hoeksema et al., 1993). Reflection may buffer the effect of rumination on psychological well-being.

Religion

The effect of religion on mental health has been debated. Findings support the ideas that it may have a positive, a negative, or no effect (for a review see Koenig & Larson, 2001). There have also been discussions over the mechanisms of any effects of religion. Religion can serve intrinsic (internal) and extrinsic (personal and social) functions (Maltby, 1999). Of these, spirituality seems to be conceptualized as similar to the intrinsic aspect of religion (Emmons, 1999; Hill & Pargament, 2003; Miller & Thoresen, 2003) that is defined as “emotional and cognitive beliefs concerning compassion, ethics and the appreciation of existence” (p. 1020, King, Speck, & Thomas, 2001; Lama, 1999). Identified mechanisms of religious and spiritual involvement include encouraging health behaviors, providing social support, altering psychological states, and ‘superempirical’ or ‘psi’ influences (Oman & Thoresen, 2002). However, only under multiple negative life events are religious salience (intrinsic), spiritual help-seeking, and service attendance found to have stress-buffering effects (Schnitker, 2001). It seems that when under many stressors people tend to appeal to outer resources such as religion, and religion may bring about hope in depressed people (Austin & Lennings, 1993). Elderly people, who were intrinsically oriented to religion, tended to have higher self-esteem and lower depression (Nelson, 1990). Religion may play a role of buffer when people encounter stressful life events.

Objectives of the Study

Life events were found to interact with personalities in which the former overrode the effect of the latter on psychological well-being (Headey & Wearing, 1989). Studies have been trying to identify factors such as coping styles, self-esteem, and self-efficacy (e.g., Bernard, Hutchison, Lavin, & Pennington, 1996) that account for the impact of life events on general well-being. The present study examines moderating and/or mediating effects of self-esteem, self-efficacy, cognitive coping styles (rumination and reflection), and religion. The well-being measures used are depression, mental health symptoms, and life satisfaction. The Beck’s Depression Inventory has been one of the commonly used screening tools for depression (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The Adult Self-Report has been reported as a valid assessment of the whole spectrum of mental health symptoms (Wiznitzer, Verhulst, van den Brink, Koeter, van den Ende, Giel, & Koot, 1992; Ferdinand & Verhulst, 1994). Finally, life satisfaction is usually

conceived as cognitive component of well-being (Diener, Emmons, Larsen, & Griffin, 1985; Pavot, Diener, Colvin, & Sandvik, 1991; Schimmack, Radhakrishnan, Oishi, Dzokoto, & Ahadi, 2002).

There are a number of objectives in the present study. 1) Life events will be evaluated for their direct impact on depression, total symptoms, and life satisfaction. Life events will be examined in terms of their perceived stressfulness, their objective severity, and their controllability. The goal is to discover which conceptualization of life events offers the best prediction of outcomes such as depression, total symptoms, and life satisfaction. 2) Self-esteem and self-efficacy have been described interacting with and mediating the effect of life events (Wilson & Krane, 1980; Longmore & Demaris, 1997; Maciejewski et al., 2000). Variables self-esteem and self-efficacy will be examined for moderating and mediating effects. 3) Besides for their moderating effect (Nolen-Hoeksema et al., 1993), the indirect effect of rumination and reflection will be looked for, mediating the effect of life events (Cox, Enns, & Taylor, 2001) on depression, total symptoms, and life satisfaction. In addition, the interaction of rumination and reflection impacting the outcome measures will be explored (Trapnell & Campbell, 1999; Preece et al., 1998). 4) As a final goal, the stress-buffering effect of religion on the life events to the outcome relationship (Schnittker, 2001) will be examined.

2.2 Method

Participants

183 participants were recruited from General Psychology classes and received extra credit for participating. The majority of participants aged from 18-22 ($M = 20.36$, $SD = 4.64$). Males and females made up 30% and 70% of the participants, respectively. The sample was 2% American Indian or Alaskan Native, 12% Asian or Pacific Islander, 2% Black (not of Hispanic origin), 4% Hispanic, 79% White (not of Hispanic origin), and 1% other. The distribution of religious affiliations was 19% non-religious, 54% Protestant (including people who described themselves as Christian, Baptist, Methodist, Lutheran, and Episcopalian), 20% Catholic, 1% Mormon, 2% Jewish, 1% Confucian, 1% Hindu, and 2% Buddhist.

Measures

The 'Age-Universal' I-E Scale-12 (the revision of Religious Orientation Scale) is composed of 12 items, rated on a scale of 0-2. This scale distinguishes between intrinsic, extrinsic-personal, and extrinsic-social types of religious orientation (Maltby, 1999). To avoid excluding

non-Christian religious orientations, the term “God” was replaced with “transcendental force,” “church” with “religious services,” and “prayer” and “pray” with “religious practices.”

The Rosenberg’s Self-Esteem Scale has ten items, rated on a scale of 1-4. This scale assesses general self-worth (Rosenberg, 1965).

The General Self-Efficacy Scale contains 17 items, rated on a scale of 1-7, which measures a person’s perceived personal mastery over general situations and behaviors (Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982).

The Perceived Life Satisfaction Scale has 19 items, rated on a scale of 1-6. This provides an overall evaluation of an individual’s satisfaction with life in different domains, including their future expectations, recreational activities, physical development, relationships with others, personal independence, and living environments (Huebner & Dew, 1993).

The Rumination-Reflection Questionnaire is made up of a 12 items rumination scale, and a 23 items reflection scale, rated on a scale of 1-5. This questionnaire was developed to distinguish between rumination and reflection (Trapnell & Campbell, 1999). Original scale items were randomly intermixed when presented to the participants in this study to decrease the respondents’ awareness of the distinction.

The Beck’s Depression Inventory consists of 21 questions. Each question contains four to six self-evaluative statements. Participants choose the statement that best describes them. This scale measures the intensity of depression (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961).

The Achenbach Adult Self-Report Form was also administered. The measure of interest from this scale was the total number of symptoms. This measure is made up of 126 items containing a broad range of symptoms including anxiety/depression, withdrawal, somatic complaints, thought problems, attention problems, aggressive behavior, rule-breaking behavior, intrusive behavior, and substance use (Achenbach, 1991).

The Life Events Checklist is a list of 25 common stressors that people may encounter in their daily life. Participants rate the stressful impact each event had on them using a 1-10 scale if the event had occurred in the last six months (Kua, Ko, Ung, & Fones, 2000).

Procedure

Participants filled out the questionnaires in groups of 5- 57. The first sheet of the questionnaire asked for demographic information including age, gender, religion, and ethnic group or race. The following sheets included the ‘Age-Universal’ I-E Scale-12, the Rosenberg’s Self-esteem Scale, the General Self-efficacy Scale, the Perceived Life Satisfaction Scale, the

Rumination-Reflection Questionnaire, the Beck's Depression Inventory, the Achenbach Adult Self-Report, and the Life Events Checklist, in this order. When turning in the completed questionnaires, participants received a written explanation of the study, which included referral information to psychological services.

2.3 Results

The scores were calculated for religion (only the total score combining intrinsic, personal and social subtypes since neither the overall scale nor the subscales were correlated with any other measure), self-esteem, self-efficacy, life satisfaction, rumination, reflection, depression, total symptoms (on the Achenbach Adult Self-Report), and perceived stressfulness of life events. The life events reported by participants were also used to calculate measures of the objective level of stress and the controllability of life events experienced. The objective measure used ratings from the Social Readjustment Rating Scale (SRRS) (Holmes and Rahe, 1967). SRRS is a rating of the degree of readjustment required by each event for the average person. Ratings from the SRRS were available for 19 out of 43 events on the Life Events Checklist (death of a spouse, death of a parent, death of other relatives, death of close friend, illness (self), caring for elderly or sick person or family member unwell, marital problem, divorce, getting married, pregnancy, birth of baby, family member left home, moving or major house renovation, change in nature of work, changing job, unemployment, retirement, financial difficulty, and beginning or ending school). The life events reported by participants were weighted by the objective severity ratings of the SRRS.

The controllability measure was calculated using ratings of life event controllability generated by Eronen and Nurmi (1999). The life events that were both included in the Life Events checklist and in the controllability ratings were used in generating this measure. The ratings and the self reports were available for eight negative events (death of a spouse or a parent, illness of self, caring for elderly or sick person, family member unwell, divorce, relationship conflict with children or parents, unemployment, and financial difficulty as negative events) and four positive events (getting married, birth of baby, changing job, and graduating from university as positive events). The life events reported by a participant were weighted by their controllability ratings to generate a controllability of life events measure.

Correlations

Univariate correlations between the variables are shown in Table 2.1.

Table 2.1

Correlations*** between Perceived Stressfulness, Controllability of Events, Objective Severity of Events, Self-esteem, Self-efficacy, Rumination, Reflection, Religion, Depression, Total Symptoms, and Life Satisfaction

	Perceived Stressfulness	Objective Severity of Events	Controllability of Events	Self-esteem	Self-efficacy	Rumination	Reflection	Religion	Depression	Total Symptoms
Objective Severity of Events	.75**									
Controllability of Events	.70**	.78**								
Self-esteem	-.24	-.08	-.11							
Self-efficacy	-.13	.02	-.10	.56**						
Rumination	.25*	.08	.17	-.53**	-.39**					
Reflection	.14	.13	.19	-.01	.08	.19				
Religion	.14	.17	.12	.04	.05	.02	.02			
Depression	.43**	.19	.23	-.66**	-.51**	.53**	.01	.02		
Total Symptoms	.41**	.24	.29*	-.55**	-.49**	.55**	.11	.09	.79**	
Life Satisfaction	-.30*	-.09	-.20	.53**	.49**	-.42**	.09	.12	-.61**	-.47**

*p < .01.

**p < .001.

***All correlations have 181 degrees of freedom.

The three outcome measures (depression, total symptoms, and life satisfaction) are correlated with each other. This means there is a moderate agreement between these outcome measures. They are also significantly related to every other measure except controllability of events and objective severity of events. Nonetheless, there is a slightly significant correlation ($r(181) = .29, p < .01$) between controllability of events and total symptoms. It seems that self-rated (i.e., perceived) stress is a better predictor of the outcome measures. The life event measure perceived stressfulness and the three potential moderators and/or mediators (self-esteem, self-efficacy, and rumination) are correlated with the three outcome measures making mediation a possibility between perceived stressfulness and the outcome measures. Rumination relates to perceived stressfulness suggesting that rumination could increase in response to stress. Reflection and religion are not related to the outcome measures.

Perceived Stressfulness, Objective Severity of Events & Moderating Effects

Self-esteem, self-efficacy, rumination, reflection, and religion were tested as moderators of the relation between life events and outcomes. Regression analyses were employed looking for moderators of the relationship between life events (perceived stressfulness, objective severity of events, and controllability of events) and the outcome measures (depression, life satisfaction, and total symptoms). Groups high and low in stress and moderator variables were defined using median splits to facilitate the interpretation of significant interactions indicating moderation. Table 2.2 demonstrates the significant interactions between perceived stressfulness, objective severity of events and self-esteem, self-efficacy, rumination in predicting depression and total symptoms

Table 2.2

The Effect of the Interactions of Perceived Stressfulness and Objective Severity of Events with Self-esteem, Self-efficacy, and Rumination on Depression and Total Symptoms

	BETA	St. Err. of BETA	t(179)	p-level
<i><u>Predicting Depression</u></i>				
Perceived Stressfulness	.26	.05	4.68	.001
Self-esteem	-.58	.05	-10.85	.001
Stress X Esteem	-.13	.05	-2.53	.012
Perceived Stressfulness	.29	.06	4.61	.001
Rumination	.42	.06	6.81	.001
Stress X Rumination	.12	.06	1.84	.068
Objective Severity of Events	.19	.06	3.12	.002

Table 2.2 (Continued)

Self-efficacy	-.51	.06	-8.17	.001
Objective Severity X Efficacy	.13	.06	2.03	.044
<i>Predicting Total Symptoms</i>				
Perceived stressfulness	.25	.06	4.25	.001
Self-esteem	-.50	.06	-8.70	.001
Stress X Esteem	-.17	.06	-3.01	.003
Objective Severity of Events	.17	.06	2.83	.005
Self-esteem	-.57	.06	-9.70	.001
Objective Severity X Esteem	-.11	.06	-1.80	.073

As perceived stressfulness increases, levels of depression increase ($p < .001$), and levels of depression decrease as levels of self-esteem increase ($p < .001$). When perceived stressfulness interacts with self-esteem, self-esteem moderates the impact of perceived stressfulness on depression ($p < .012$). In the interaction, low self-esteem groups are more susceptible to increased levels of perceived stressfulness ($M = 8.10$, $SD = 7.22$ for low perceived stressfulness; $M = 13.21$, $SD = 8.32$ for high perceived stressfulness) than high self-esteem ones are ($M = 3.42$, $SD = 3.21$ for low perceived stressfulness; $M = 4.97$, $SD = 5.41$ for high perceived stressfulness).

Perceived stressfulness and rumination make independent contributions to predicting depression. Higher levels of stress and higher levels of rumination predict higher depression scores ($p < .001$ for both). The interaction between perceived stressfulness and rumination also makes a marginal contribution to predicting depression ($p < .068$). Increases in perceived stressfulness are more strongly related to increases in depression for those high in rumination ($M = 13.33$, $SD = 8.90$ for high perceived stressfulness; $M = 7.41$, $SD = 5.05$ for low perceived stressfulness) than they are for low rumination groups ($M = 5.23$, $SD = 4.37$ for high perceived stressfulness; $M = 4.15$, $SD = 5.94$ for low perceived stressfulness).

Higher levels of objective severity of events are related to higher levels of depression ($p < .002$), while higher levels of self-efficacy are related to lower levels of depression ($p < .001$). The interaction between objective severity of events and self-efficacy contributes to predicting depression levels ($p < .044$). The difference between high and low objective severity of events is 2.16 points on the depression scale for those low in self-efficacy ($M = 11.37$, $SD = 8.55$ for high objective severity of events; $M = 9.22$, $SD = 8.38$ for low objective severity of events). The difference between high and low objective severity of events groups for those high in self-efficacy is larger (3.40 points, with $M = 6.67$, $SD = 5.93$ for high objective severity of events; $M = 3.27$, $SD = 3.08$ for low objective severity of events).

The pattern of the interaction between perceived stressfulness and self-esteem in predicting

total symptoms is similar to the pattern for depression and is significant ($p < .003$). Higher levels of perceived stressfulness predict higher levels of total symptoms ($p < .001$). Levels of self-esteem negatively predict levels of total symptoms ($p < .001$). High self-esteem groups have a small change in their levels of total symptoms as levels of perceived stressfulness increase ($M = 38.10$, $SD = 20.51$ for low perceived stressfulness; $M = 40.92$, $SD = 21.56$ for high perceived stressfulness). For low self-esteem groups, levels of perceived stressfulness are more strongly related to levels of total symptoms ($M = 51$, $SD = 25.12$ for low perceived stressfulness; $M = 76.30$, $SD = 33.92$ for high perceived stressfulness).

Higher levels of objective severity of events predict higher levels of total symptoms ($p < .005$). Levels of self-esteem negatively predict levels of total symptoms ($p < .001$). This interaction is marginally significant ($p < .073$). The difference between high and low levels of objective severity of events on the total symptoms scale is greater for those low in self-esteem (16.76 points, with $M = 56.59$, $SD = 29.26$ for low objective severity of events and $M = 73.35$, $SD = 34.08$ for high objective severity of events) than for those high in self-esteem (4.93 points, with $M = 37.10$, $SD = 20.75$ for low objective severity of events and $M = 42.03$, $SD = 21$ for high objective severity of events).

Controllability of Events & Moderating Effects

Controllability of events was also explored as a third way, to account for life events impacting outcome variables. It was separated into positive and negative events in a preliminary analysis. However, outliers in the positive controllability scores made this analysis uninterpretable. Hence, the interaction of controllability of events with religion predicting depression and life satisfaction will be discussed for overall controllability of events. The interaction of controllability of events with self-esteem predicting total symptoms and of controllability of events with self-efficacy predicting depression are influenced mostly by controllability of negative events. Although the regression is also based on overall controllability of events, accordingly, these interactions will be discussed for controllability of negative events.

The regression analyses looking at moderators of the relationship between controllability of events and outcome measures are presented in Table 2.3.

Table 2.3

The Effect of the Interactions of Overall Controllability of Events and Controllability of Negative Events with Religion, Self-esteem, and Self-efficacy on Depression, Total Symptoms, and Life Satisfaction

	BETA	St. Err. of BETA	T(179)	p-level
<i><u>Predicting Depression</u></i>				
Overall Controllability of Events	.24	.07	3.36	.001
Religion	-.01	.07	-.17	.863
Controllability X Religion	-.14	.07	-1.90	.059
Controllability of Negative Events	.18	.06	2.92	.004
Self-efficacy	-.49	.06	-7.84	.001
Controllability X Efficacy	.11	.06	1.72	.087
<i><u>Predicting Total Symptoms</u></i>				
Controllability of Negative Events	.21	.06	3.56	.001
Self-esteem	-.56	.06	-9.63	.001
Controllability X Esteem	-.11	.06	-1.89	.061
<i><u>Predicting Life Satisfaction</u></i>				
Overall Controllability of Events	-.23	.07	-3.14	.002
Religion	.14	.07	2.00	.047
Controllability X Religion	.12	.07	1.67	.097

Higher levels of overall controllability of events predict higher levels of depression ($p < .001$). Level of religion is not related to depression. The interaction between overall controllability of events and religion, however, makes a marginal contribution to predicting levels of depression ($p < .059$). Overall controllability of events has a larger effect in the low religious groups ($M = 5.37$, $SD = 5.22$ for low overall controllability of events; $M = 10.13$, $SD = 8.21$ for high overall controllability of events) than in the high religious groups ($M = 6.03$, $SD = 7.43$ for low overall controllability of events; $M = 9.02$, $SD = 8$ for high overall controllability of events) in predicting depression.

Higher levels of controllability of negative events are related to higher levels of depression ($p < .004$), while higher levels of self-efficacy are related to lower levels of depression ($p < .001$). The interaction between controllability of negative events and self-efficacy also makes a marginal contribution to predicting levels of depression ($p < .087$). The effect of negative controllability of events is smaller in low self-efficacy groups ($M = 8.76$, $SD = 7.67$ for low controllability of negative events; $M = 11.53$, $SD = 8.98$ for high controllability of negative events) than in high self-efficacy groups ($M = 3.14$, $SD = 2.91$ for low controllability of negative events; $M = 7.10$, $SD = 6.01$ for high controllability of negative events).

The regression showed that higher levels of controllability of negative events are related to higher levels of total symptoms ($p < .001$). Higher levels of self-esteem are negatively related to levels of total symptoms ($p < .001$). The interaction between controllability of negative events and self-esteem is significant ($p < .061$). This is a larger effect of negative controllability of events in low self-esteem groups ($M = 34.77$, $SD = 20.60$ for low controllability of negative events; $M = 44.45$, $SD = 20.23$ for high controllability of negative events) than in high self-esteem groups ($M = 56.30$, $SD = 30.54$ for low controllability of negative events; $M = 73.61$, $SD = 32.91$ for high controllability of negative events).

Levels of overall controllability of events are negatively related to levels of life satisfaction ($p < .002$). Higher levels of religion predict higher levels of life satisfaction ($p < .047$). The marginal interaction ($p < .097$) showed a larger decrease in levels of life satisfaction as overall controllability of events increase for the low religious groups ($M = 91.97$, $SD = 11.56$ for low overall controllability of events; $M = 87.79$, $SD = 12.37$ for high overall controllability of events) than for high religious groups ($M = 89.83$, $SD = 10.24$ for low overall controllability of events; $M = 82.50$, $SD = 10.53$ for high overall controllability of events).

Rumination & Reflection Interaction

As suggested by Trapnell & Campbell (1999 cited in Preece, et al., 1998), there is an interaction between rumination and reflection. This interaction was only significant for life satisfaction. Table 2.4 shows the result of the regression analysis looking for at the interaction between rumination and reflection as a prediction of life satisfaction.

Table 2.4

The Effect of the Interaction between Rumination and Reflection on Life Satisfaction

<i>Predicting Life Satisfaction</i>	BETA	St. Err. of BETA	t(179)	p-level
Rumination	-.48	.07	-6.99	.001
Reflection	.18	.07	2.61	.011
Rumination X Reflection	.14	.07	2.03	.044

Higher levels of rumination are related to lower levels of life satisfaction ($p < .001$), while higher levels of reflection are related to higher levels of life satisfaction ($p < .011$). The interaction between rumination and reflection also contributes to predicting levels of life satisfaction ($p < .044$). The regression showed a larger effect of increases in rumination in the low reflection groups ($M = 92.19$, $SD = 10.03$ for low in rumination; $M = 80.32$, $SD = 9.29$ for high

in rumination) than in the high reflection groups ($M = 90.40$, $SD = 10.91$ for low in rumination; $M = 86.90$, $SD = 12.47$ for high in rumination).

Perceived Stressfulness & Mediating Effects

A separate set of regression analyses were run looking for potential mediation of the relation between perceived stressfulness and the outcome measures. The significant results are presented in Table 2.5. Since life events, as perceived stressfulness, correlate better with the outcome measures than do objective severity and controllability, the mediating effects of self-esteem, self-efficacy, rumination, and reflection were examined between perceived stressfulness and depression, total symptoms, and life satisfaction. Only self-esteem and rumination were found to have mediating effects.

Table 2.5

The Mediating Effect of Self-esteem and Rumination from Perceived Stressfulness to Depression, Total Symptoms, and Life Satisfaction

	BETA	St. Err. of BETA	t	p-level
<i><u>Predicting Depression</u></i>				
Perceived Stressfulness (step 1)	.43	.07	t(181) = 6.37	.001
Perceived Stressfulness (step 2)	.29	.05	t(180) = 5.30	.001
Self-esteem	-.59	.05	-10.87	.001
Indirect pathway from perceived stressfulness to depression via self-esteem z = 3.21, p < .001.				
<i><u>Predicting Total Symptoms</u></i>				
Perceived Stressfulness (step 1)	.41	.07	t(181) = 6.11	.001
Perceived Stressfulness (step 2)	.29	.06	t(180) = 4.94	.001
Self-esteem	-.51	.06	-8.72	.001
Indirect pathway from perceived stressfulness to total symptoms via self-esteem z = 3.13, p < .002.				
<i><u>Predicting Life Satisfaction</u></i>				
Perceived Stressfulness (step 1)	-.30	.07	t(181) = -4.20	.001
Perceived Stressfulness (step 2)	-.18	.06	t(180) = -2.82	.001
Self-esteem	.49	.06	7.73	.005
Indirect pathway from perceived stressfulness to life satisfaction via self-esteem z = -3.08, p < .002.				
<i><u>Predicting Depression</u></i>				
Perceived Stressfulness (step 1)	.43	.07	t(181) = 6.37	.001
Perceived Stressfulness (step 2)	.32	.06	t(180) = 5.19	.001
Rumination	.45	.06	7.33	.001

Table 2.5 (Continued)

Indirect pathway from perceived stressfulness to depression via rumination $z = 3.12, p < .002.$				
<i>Predicting Total Symptoms</i>				
Perceived Stressfulness (step 1)	.41	.07	$t(181) = 6.11$.001
Perceived Stressfulness (step 2)	.29	.06	$t(180) = 4.88$.001
Rumination	.49	.06	8.22	.001
Indirect pathway from perceived stressfulness to total symptoms via rumination $z = 3.18, p < .001.$				
<i>Predicting Life Satisfaction</i>				
Perceived Stressfulness (step 1)	-.30	.07	$t(181) = -4.20$.001
Perceived Stressfulness (step 2)	-.21	.07	$t(180) = -3.04$.001
Rumination	-.37	.07	-5.36	.003
Indirect pathway from perceived stressfulness to life satisfaction via rumination $z = -2.90, p < .004.$				

Possible mediators of the relationships between perceived stressfulness and each of the outcome variables were explored using a stepwise regression approach. In this approach the outcome variable is first regressed on the predictor variable. In a second step the outcome variable is regressed on the predictor variable and the potential mediator. Mediation is indicated when the beta for that variable in the first step is substantially lower than the beta for the predictor variable in the second step. Once this has been established, the significance of the indirect pathway from the predictor to the mediator to the outcome variable was tested using Sobel test (Sobel, 1982). The Sobel test is testing the significance of the indirect pathway from the independent variable to the dependent variable via the mediator. The results of test statistic had to be greater than 1.96 in absolute value to achieve significance at the .05 level.

The first analyses looked at self-esteem as a mediator. In the first step, perceived stressfulness predicts depression ($\beta = .43, p < .001$). In the second step, looking at direct and indirect pathways independently, the direct pathway from perceived stressfulness ($\beta = .29, p < .001$) to depression decreases substantially as the indirect pathway via self-esteem ($\beta = -.59, p < .001$) also predicts depression. The Sobel test result shows that the indirect pathway from perceived stressfulness to self-esteem to depression is significant ($z = 3.21, p < .001$).

A similar pattern shows in the mediating effect on total symptoms. Higher levels of perceived stressfulness correlate with higher levels of total symptoms ($\beta = .41, p < .001$). The effect of perceived stressfulness on total symptoms decreases ($\beta = .29, p < .001$) while the pathway is influenced by self-esteem ($\beta = -.51, p < .001$). The indirect pathway is also significant in the Sobel test ($z = 3.13, p < .002$). Since there are overlapping items in the outcome

measures of depression and total symptoms, total symptoms were tested with and without depression subscale. Significant mediation was found even without the depression subscale ($z = 3.02, p < .003$). Thus the mediators are similar for predicting depression and total symptoms.

Perceived stressfulness affects levels of life satisfaction directly ($\beta = -.30, p < .001$). When self-esteem ($\beta = .49, p < .005$) comes into account for the indirect pathway from perceived stressfulness to life satisfaction, the influence of perceived stressfulness decreases ($\beta = -.18, p < .001$). The indirect pathway is significant in the Sobel test ($z = -3.08, p < .002$). All in all, self-esteem mediates the indirect pathway from perceived stressfulness to depression, total symptoms, and life satisfaction.

Rumination was also explored as a mediator. Perceived stressfulness correlates to higher levels of depression ($\beta = .43, p < .001$). The direct pathway decreases in the second step ($\beta = .32, p < .001$) suggesting that rumination mediates the indirect pathway between perceived stressfulness and depression ($\beta = .45, p < .001$). The mediated pathway is significant in the Sobel test ($z = 3.12, p < .002$).

As perceived stressfulness influences levels of total symptoms ($\beta = .41, p < .001$), the influence decreases ($\beta = .29, p < .001$) when rumination ($\beta = .49, p < .001$) participates in an indirect pathway from perceived stressfulness to total symptoms. The significance of the indirect pathway is supported in the Sobel test ($z = 3.18, p < .001$). An analysis removing depression items from the total symptoms score found a similar indirect pathway ($z = 3.09, p < .002$).

The pathway from perceived stressfulness to life satisfaction ($\beta = -.30, p < .001$) decreases significantly ($\beta = -.21, p < .001$) when it is mediated by rumination ($\beta = -.37, p < .003$). The mediation is significant ($z = -2.90, p < .004$). Over all, the impact of perceived stressfulness on depression, total symptoms, and life satisfaction is mediated by rumination, though direct effects also exist.

2.4 Discussion

Self-esteem

Self-esteem is positively related to self-efficacy and life satisfaction, and negatively to rumination, depression, and total symptoms. Moreover, self-esteem buffers the negative impact of perceived stressfulness on total symptoms, and slightly decreases the negative impact of objective severity of events and controllability of negative events on total symptoms. The impact of perceived stressfulness on depression is not only influenced by self-esteem as a moderator but

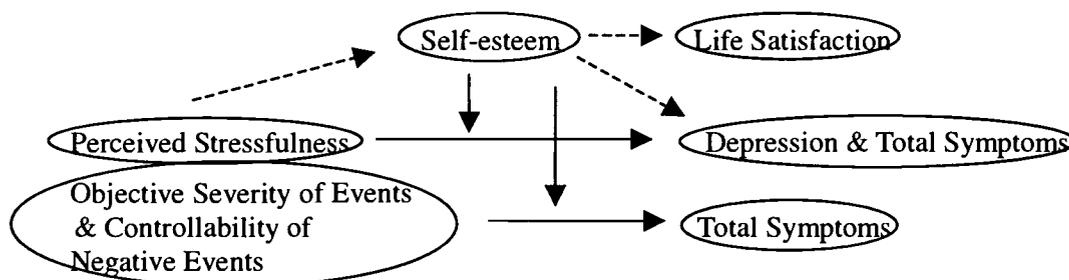
also through it as a mediator. Finally, self-esteem mediates the impact of perceived stressfulness on life satisfaction and total symptoms.

Self-esteem plays both moderating and mediating roles in the relation of life events and mental health outcomes. The depression levels of low self-esteem people are influenced more than they are for high self-esteem people by the level of perceived stressfulness. The similar pattern is manifested in the perceived stressfulness and self-esteem interaction with an effect on total symptoms in which low self-esteem people are also more vulnerable. The objective severity of events has less impact on the levels of total symptoms for those high in self-esteem. High levels of self-esteem seem to be a protective factor, whereas low levels of self-esteem tend to create vulnerability to stressors. The later supports previous studies where low or negative self-esteem was associated with negative outcome measures such as depression (Brown et al., 1990a).

Low self-esteem people generally have more reported total symptoms than high self-esteem ones regardless of the level of controllability of negative events. Those low in self-esteem have greater fluctuation in levels of total symptoms when they encounter high levels of controllability of negative events. It suggests when people are accountable for negative events that happened to them, high self-esteem moderates the psychological impact of negative events in that the discrepancy between low and high self-esteem is slightly greater with high controllability of negative events than with low controllability of negative events. All in all, high levels of perceived stressfulness, objective severity of events, and controllability of negative events increase the discrepancy between low and high self-esteem groups predicting depression and total symptoms. This indicates the protective function of high self-esteem.

In addition, self-esteem mediates the pathway from perceived stressfulness to depression, life satisfaction, and total symptoms. This pattern suggests that increases in perceived stressfulness first decrease levels of self-esteem. Then the low self-esteem directly leads to the increases in depression and total symptoms and the decreases in life satisfaction. Higher levels of self-esteem correlate with lower levels of depression and total symptoms and higher levels of life satisfaction. All the interacting and mediating effects of self-esteem discussed above are illustrated as Figure 2.1.

Figure 2.1. The moderating effect of self-esteem (in solid line) interacting with perceived stress, objective severity of events, and controllability of negative events on depression and total symptoms; the mediating effect of self-esteem (in broken line) from perceived stressfulness to depression, life satisfaction, and total symptoms.



Perceived stressfulness influences self-esteem, which in turn influences levels of depression, total symptoms, and life satisfaction. There is also an influence of perceived stressfulness independent of self-esteem as perceived stressfulness interacts with it where high self-esteem decreases the impact of perceived stressfulness on depression and total symptoms, and the impact of objective severity of events and controllability of negative events on total symptoms. From both the moderating and mediating effects of self-esteem, low self-esteem seems to be sufficient but not necessary condition for depression or other psychological symptoms to occur, as suggested in previous studies (Tripp et al., 1997; Abramson et al., 1978).

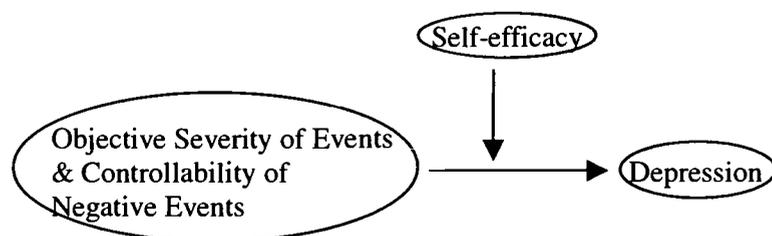
Self-efficacy

Self-efficacy is positively related to self-esteem and life satisfaction, and negatively related to rumination, depression, and total symptoms. Self-efficacy has an influence on the impact of objective severity of events on depression, and a marginal influence on the effect of controllability of negative events on depression.

Self-efficacy interacts with objective severity of events predicting depression in which high efficacy increases the impact of objective severity of events. People low in self-efficacy have higher levels of depression than those high in self-efficacy. When self-efficacy interacts with controllability of negative events, the level of depression in high self-efficacy group increases more than in low self-efficacy group as controllability of negative events goes up. The low self-efficacy group may be prone to helplessness so that when they encountered negative events over which they had control, this results in a smaller increase in depression than would be the case for high self-efficacy people that may be less likely to blame themselves than low self-efficacy are. It is intriguing that those high in controllability of negative events and self-efficacy, and those low in controllability of negative events and self-efficacy have similar

levels of depression. It could be the self-blame of high self-efficacy group that created some level of depression when they had control over negative events but did not work them out. It could be that those low in self-efficacy seem to make less distinction between levels of controllability of negative events so they tend to have similar levels of depression. All the interactions of self-efficacy discussed above are illustrated as Figure 2.2.

Figure 2.2. The impact of self-efficacy interactions with objective severity of events and controllability of negative events on depression and total symptoms.



Self-efficacy does not have a mediating effect on relations between life events and mental health outcomes. It has also no interaction with perceived stressfulness but does interact with objective severity of events and controllability of negative events impacting levels of depression. An individual's self-efficacy may not be completed based on subjective perceptions but have some objective basis as well, such as performance outcomes (Maciejewski et al., 2000). Thus the objective severity of events and controllability of events are more likely to interact with self-efficacy. All in all, high levels of objective severity of events and controllability of negative events reduce the discrepancy between low and high self-efficacy groups in depression, in the sense that those high in self-efficacy tend to be susceptible to the impact of life events although overall high self-efficacy associates with lower level of depression compared to low self-efficacy. Its lack of mediating effect may explain that self-efficacy, rather than being influenced directly by life events, fluctuates with levels of self-esteem, rumination, depression, total symptoms, and life satisfaction.

Rumination & Reflection

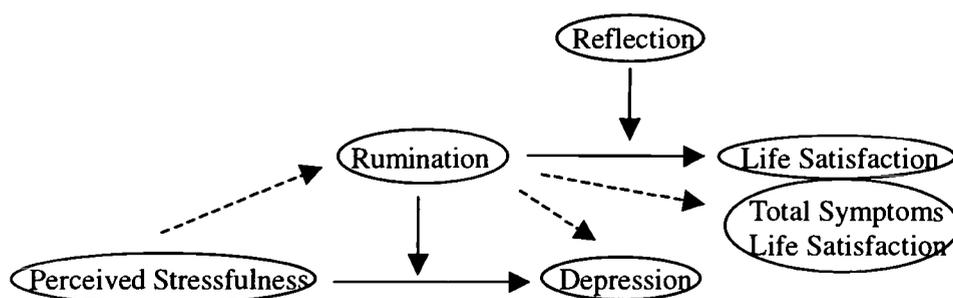
Rumination is positively related to depression and total symptoms, and negatively to self-esteem, self-efficacy, and life satisfaction. Rumination also slightly influences the impact of perceived stressfulness on depression. Perceived stressfulness increases rumination as a mediator, which in turn increases depression and total symptoms, and decreases life satisfaction. Reflection

is not related to any measure of life events or mental health outcomes. Nevertheless, reflection does interact with rumination in that reflection buffers the negative impact of rumination on life satisfaction.

Levels of perceived stressfulness have little influence on depression in those low in rumination. High perceived stressfulness has significantly more impact on depression levels in those high in rumination than those low in rumination. Moreover, people that are low in rumination generally have higher levels of life satisfaction, with the low reflection group (repressive cognitive style) slightly more satisfaction than those high in reflection (adaptable cognitive style). For people high in rumination, the combination with high reflection brings about higher levels of life satisfaction (sensitizing cognitive style) than one with low reflection (vulnerable cognitive style). Those low in rumination reported similar levels of life satisfaction regardless of the level of reflection, and higher levels of life satisfaction than those high in rumination. It seems that rumination creates a vulnerability for mental health problems, the level of reflection helps to decrease the negative impact of rumination. For the four cognitive styles from the interaction between rumination and reflection (Trapnell & Campbell, 1999; Preece, DeLongis, Campbell, & Trapnell, 1998), those high in rumination and low in reflection do seem vulnerable.

Moreover, rumination mediates the pathway from perceived stressfulness to depression, life satisfaction, and total symptoms. Perceived stressfulness increases rumination, which in turn increases the mental health problems of depression and total symptoms and also decreases an individual's life satisfaction. All the interacting and mediating effects of rumination discussed above are illustrated as Figure 2.3.

Figure 2.3. The moderating effect of rumination (in solid line) interacting with perceived stressfulness on depression, and with reflection on life satisfaction; the mediating effect of rumination (in broken line) between perceived stressfulness, and depression, life satisfaction, and total symptoms.



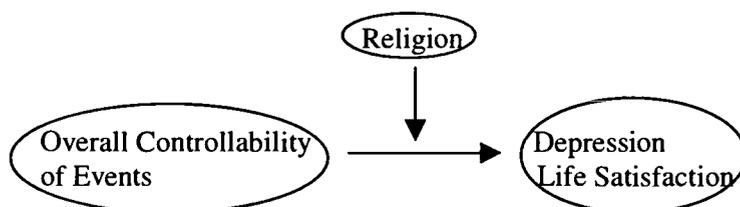
Reflection failed to have moderating or mediating effects on the relations between life events and outcomes. Rumination mediates the indirect pathway from perceived stressfulness to life satisfaction. Reflection moderates the influence of rumination on the life satisfaction. Low reflection exacerbates the effect of rumination on life satisfaction while high reflection buffers the negative effect. It may be that rumination is mostly emotion-focused while reflection is somewhat intellectually oriented. When reflection comes into playing a positive role, it may moderate ruminative aspects that are obsessive and negative emotion-focused.

Religion

Religion is not related to any other measure, but does have a marginal interaction with overall controllability of events influencing levels of depression and life satisfaction. High and low overall controllability of events have a stronger effect on depression than religion scores do. High overall controllability of events generally increases the level of depression in people both high and low in religion, but these effects are larger for those low than high in religion. In high overall controllability of events, people high in religion are slightly less depressed than ones that are low in religion, whereas people high in religion are slightly more depressed in low overall controllability of events. These differences are too small to be very meaningful.

Levels of life satisfaction for low religion groups are more subject to levels of overall controllability of events compared to high religion ones. High overall controllability of events decreases the level of life satisfaction, with larger effects for those low than high in religion. People high in religion generally have higher levels of life satisfaction compared to those low in religion. This pattern may be as a result of people high in religion tending to attribute both positive and negative events to religious forces. Hence, they tended to believe there was a purpose for the things that happened to them and felt less unsatisfied. The religion and overall controllability of events interaction is illustrated as Figure 2.4.

Figure 2.4. The impact of religion interaction with overall controllability of events on depression and life satisfaction.



Contrary to expectations, religion is not related to any other measure. It only interacts with

overall controllability of events. In the interaction predicting depression and life satisfaction, levels of depression do not differ with levels of religion but rather with levels of overall controllability of events. Even for those high in religion encountering high overall controllability of events, levels of life satisfaction are still slightly higher than those low in religion having low overall controllability of events. Religion does play a role buffering the effect of overall controllability of events on levels of life satisfaction.

2.5 Conclusion

The findings relating to the objectives of the study are summarized in the following. 1) Life events in terms of perceived stressfulness, rather than objective severity of events and controllability of events, overall correlates more strongly with depression, total symptoms, and life satisfaction. In the regression analysis of the moderating effects, perceived stressfulness and controllability of events have a direct impact on all three outcome measures. Objective severity of events directly affects levels of depression and total symptoms. 2) For the moderating effects, self-esteem moderates the impact of perceived stressfulness, objective severity of events, and controllability of negative events on total symptoms, and the impact of perceived stressfulness on depression. Self-efficacy moderates the impact of objective severity of events and controllability of negative events on depression. Mediating effects were also found. Self-esteem mediates the pathways from perceived stressfulness to depression, total symptoms, and life satisfaction. Self-efficacy does not mediate the impact of the event measures, but does interact with objective severity of events and controllability of negative events influencing levels of depression. While self-esteem is a protective factor, high self-efficacy represents an increased risk of depression when high levels of controllability of negative events occur. 3) Rumination interacts with perceived stressfulness influencing levels of depression. Rumination also mediates the pathways from perceived stressfulness to depression, total symptoms, and life satisfaction. Rumination interacts with reflection in predicting levels of life satisfaction. People with the cognitive style high in rumination and low in reflection are found to be most vulnerable. 4) Religion influences levels of depression and life satisfaction by moderating the effect of overall controllability of events.

There are some limitations of the study. First, since the survey was based on correlational measures, causal explanations for moderating and mediating effects were implied rather than tested directly. Second, not every event in the Life Events Checklist was used in calculating the objective severity of events and controllability of events, which resulted in a small number of

events on these scales. Third, since the sample in the study was made up of college students, and about two third of them are female and white, generalization of the results to other populations should be made cautiously. Fourth, the interpretation of religious effects should be restricted to western religions, since most of the participants were protestant (54%) and catholic (20%). In addition, the rating scale in the religious scale is relatively narrow (0 = no; 1 = not certain; 2 = yes) compared to the original five-point rating scale. This gave respondents less freedom of choices and may have restricted the range on this variable. A restriction of range would reduce the religion variable's power to make predictions. Fifth, the majority of the participants were not clinically depressed (73% "non-depressed" scoring 0-9, 15% "mildly depressed" scoring 10-15, 7% "moderately depressed" scoring 16-23, and 5% "severely depressed" scoring above 23). Hence, the results should not be applied to clinical populations. Finally, the Events Checklist asked about events in the past half a year. Those that happened recently might have a stronger impact on depression than those further back in time, decreasing the predictive power of the measure combining them.

Future research should develop a life events scale that includes events in the Life Events Checklist, SRRS, and controllability of events so that the measures are comparable between perceived stress, objective severity, and controllability. The future study could also include rating scales for perceived controllability for respondents to rate. The scale may also ask the time since the events occurred, so that the stronger impact of more recently happened events could be compared to those that happened less recently. A longitudinal study would help to determine the direction of causal relationships between these variables, and to clarify what roles the stability and the lability of self-esteem play in response to stressful life events. It would also allow a determination of how self-efficacy fluctuates with life events. Future research should also include participants that are more diverse in characteristics such as religion and ethnicity. Spirituality may be considered in future study to learn its potential relationships with religiosity (i.e., spirituality is not equal to religiosity) and reflection (i.e., spiritual people tend to reflect more). Finally, clinically depressed participants should be sampled out to compare against non-clinically depressed ones so that clinical and non-clinical depression would be looked in a more depth.

In conclusion, self-esteem was found to buffer the negative impact of life events on depression and total symptoms, and also to mediate the relationship between stress and life satisfaction. Self-esteem seems to reflect the challenge aspect of hardiness in which people high in self-esteem are more likely to view change as an opportunity than those low in self-esteem. This aspect of hardiness may imply stress resilience in a manner that high self-esteem people tend

to be adaptive in their attributional styles leading to stable self-esteem and competence. This may lead to openness to actions that bring about change. Self-efficacy, on the other hand, was a factor that tended to exaggerate the effects of life events in influencing depression. It may be related to the control aspect of hardiness in a manner suggesting that indiscriminate internality of attributional styles (i.e., inner locus of control for events low in controllability such as illness) creates vulnerability for depression. A belief that one has control over everything may put an individual in distress (high self-efficacy associates with a vulnerability to the negative effects of life events). In contrast, a belief that one has no control over anything may put an individual in despair (low self-efficacy associates with higher levels of depression). In addition, high rumination exacerbates the negative impact of high perceived stressfulness on depression. People low in rumination tend to have a lower level of depression than those high in rumination regardless of levels of perceived stressfulness. Reflection seems to be a positive aspect of cognition when it buffers the negative impact of rumination on life satisfaction. Religion was also found to influence levels of depression and life satisfaction though the intrinsic aspect of religion alone had no effect.

These data provide examples of the way cognition plays a role in predicting the impact of stress on mental health. Insights (openness to ideas and values) or negative thoughts influence how individuals react to their experiences. It is not experiences alone that contribute to distress. Rather, what people think about them makes differences. Rumination may create vulnerability for depression by focusing on negative thoughts and emotions. In this regard, rumination may reflect extreme indulgence in negative thoughts and emotions and thus the incapacity to gain insights and cope with problems. Reflection, on the other hand, may be related to openness to ideas and values in a manner that suggests that individuals see stress in broad, positive lens and thus, they can gain strength out of stress. The challenge aspect of hardiness (a view of change as an opportunity) may provide a positive influence leading to a positive side of stress (i.e., eustress) in which individuals are open to opportunities. All in all, cognitive factors contribute to the relationship between stress and well-being. This allows for change through self-awareness, recognition of one's power to turn distress into eustress. This is where cognition therapy can come to play a role when an individual is open to ideas and values, to know his or her own self-worth, to have moderate self-efficacy, and to appreciate and learn from experiences.

REFERENCES

- Achenbach, T. M. (1991). Manual for the Youth Total symptoms and 1991 Profile. Burlington, VT: Department of Psychiatry, University of Vermont.
- Alloy, L. B. (1991). Depression and anxiety: Disorders of emotion ore cognition? Psychological Inquiry, 2(1), 72-74.
- Anderson, C. A. & Arnoult, L. H. (1985). Attributional style and everyday problems in living: Depression, loneliness, and shyness. Social Cognition, 3(1), 16-35.
- Austin, D. & Lennings, C. J. (1993). Grief and religious belief: Does belief moderate depression? Death Studies, 17(6), 487-496.
- Bagby, M. R. & Parker, J. D. A. (2001). Relation of rumination and distraction with neuroticism and extraversion in a sample of patients with major depression. Cognitive Therapy and Research, 25(1), 91-102.
- Beasley, M., Thompson, T., & Davidson, J. (2003). Resilience in responses to life stress: The effects of coping style and cognitive hardiness. Personality and Individual Differences, 34(1), 77-95.
- Beck, A. T., Rush, J. A., Shaw, B. F., & Emery, G. (1979). The role of emotions in cognitive therapy. Cognitive therapy of depression. New York: Guilford.
- Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. Archives of General Psychiatry, 4, 561-571.
- Bernard, L. C., Hutchison, S., Lavin, A., & Pennington, P. (1996). Ego-strength, hardiness, self-esteem, self-efficacy, optimism, and maladjustment: Health-related personality constructs and the "Big Five" Model of Personality. Assessment, 3(2), 115-131.
- Bhatti, R. S. & Channabasavanna, S. M. (1985). Study of neurosis: I Life events and personality dimension. Indian Journal of Psychiatry, 27(2), 127-137.
- Bieliauskas, L. A. & Webb, J. T. (1974). The Social Readjustment Rating Scale: Validity in a college population. Journal of Psychosomatic Research, 18(2), 115-123.
- Blalock, J. A. & Joiner, Jr., T. E. (2000). Interaction of cognitive avoidance coping and stress in predicting depression/anxiety. Cognitive Therapy and Research, 24(1), 47-65.
- Brookings, J. B. & Bolton, B. (1997). A longitudinal, structural equation analysis of stress, hardiness, social support, depression, and illness. Multivariate Experimental Clinical Research, 11(3), 109-120.
- Brown, G. W., Andrews, B., Bifulco, A., & Veiel, H. (1990). Self-esteem and depression: I Measurement issues and prediction of onset. Social Psychiatry and Psychiatric Epidemiology, 25(4), 200-209.
- Brown, G. W., Bifulco, A., Veiel, H. O. E., & Andrews, B. (1990). Self-esteem and depression: II Social Correlates of self-esteem. Social Psychiatry and Psychiatric Epidemiology, 25(5), 225-234.
- Brown, G. W., Bifulco, A. T., & Andrews, B. (1990). Self-esteem and depression: IV Effect on course and recovery. Social Psychiatry and Psychiatric Epidemiology, 25(5), 244-249.
- Brown, G. W. (1998). Genetic and population perspectives on life events and depression. Social Psychiatry and Psychiatric Epidemiology, 33(8), 363-372.
- Burns, D. D. & Spangler, D. L. (2001). Do changes in dysfunctional attitudes mediate changes in depression and anxiety in cognitive behavior therapy? Behavior Therapy, 32(2), 337-369.
- Butler, A. C., Hokanson, J. E., & Flynn, H. A. (1994). A comparison of self-esteem lability and low trait self-esteem as vulnerability factors for depression. Journal of Personality and Social Psychology, 66(1), 166-177.
- Callahan, C. D. (2000). Stress, coping, and personality hardiness in patients with temporomandibular disorders. Rehabilitation Psychology, 45(1), 38-48.

- Carrillo, J. M., Rojo, N., Sanchez-Bernardos, M. L., & Avia, M. D. (2001). Openness to experience and depression. European Journal of Psychological Assessment, *17*(2), 130-136.
- Cassidy, T. (2000). Stress, healthiness and health behaviors: An exploration of the role of life events, daily hassles, cognitive appraisal and the coping process. Counselling Psychology Quarterly, *13*(3), 293-311.
- Chan, D. W. (2000). Dimensionality of hardiness and its role in the stress-distress relationship among Chinese adolescents in Hong Kong. Journal of Youth & Adolescence, *29*(2), 147-161.
- Clark, L. A. & Watson, D. (1991). Tripartite model of anxiety and depression: Psychometric evidence and taxonomic implications. Journal of Abnormal Psychology, *100*(3), 316-336.
- Cooke, D. J. (1981). Life events and syndromes of depression in the general population. Social Psychiatry, *16*(4), 181-186.
- Copeland, J. R. (1983). Psychotic and neurotic depression: Discriminant function analysis and five-year outcome. Psychological Medicine, *13*(2), 373-383.
- Corey, G. (2001). Theory and practice of counseling and psychotherapy (6th ed.). Belmont, CA: Wadsworth/Thomson Learning.
- Cox, B. J., Taylor, S., & Enns, M. W. (1999). Fear of cognitive dyscontrol in relation to depression symptoms: Comparisons between original and alternative measures of anxiety sensitivity. Journal of Behavior Therapy and Experimental Psychiatry, *30*(4), 301-311.
- Cox, B. J., Enns, M. W., & Taylor, S. (2001). The effect of rumination as a mediator of elevated anxiety sensitivity in major depression. Cognitive Therapy and Research, *25*(5), 525-534.
- Cui, X-J. & Vaillant, G. E. (1997). Does depression generate negative life events? The Journal of Nervous and Mental Disease, *185*(3), 145-150.
- Deldin, P. J., Keller, J., Gergen, J. A., & Miller, G. A. (2001). Cognitive bias and emotion in neuropsychological models of depression. Cognition and Emotion, *15*(6), 787-802.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. Journal of Personality Assessment, *49*(1), 71-75.
- Dohrenwend, B. S., Askenasy, A. R., Krasnoff, L., & Dohrenwend, B. P. (1978). Exemplification of a method for scaling life events: The PERI Life Events Scale. Journal of Health and Social Behavior, *19*(2), 205-229.
- Dowd, E. T. & Kelly, F. D. (1980). Adlerian psychology and cognitive-behavior therapy: Convergences. Journal of Individual Psychology, *36*(2), 119-135.
- Edwards, J. A. & Weary, G. (1993). Depression and the impression-formation continuum: Piecemeal processing despite the availability of category information. Journal of Personality and Social Psychology, *64*(4), 636-645.
- Eifert, G. H. & Craill, L. (1989). The relationship between affect, behavior, and cognition in behavioral and cognitive treatments of depression and phobia anxiety. Behaviour Change, *6*(2), 96-103.
- Emery, R. E. & Oltmanns, T. F. (2000). Essentials of abnormal psychology. Upper Saddle River, NJ: Prentice-Hall, Inc.
- Emmons, R. A. (1999). Religion in the psychology of personality: An introduction. Journal of Personality, *67*(6), 873-888.
- Eronen, S. & Nurmi, J-E. (1999). Life events, predisposing cognitive strategies and well-being. European Journal of Personality, *13*(2), 129-148.
- Fava, M., Farabaugh, A. H., Sickinger, A. H., Wright, E., Alpert, J. E., Sonawalla, S., Nierenberg, A. A., & Worthington III, J. J. (2002). Personality disorders and depression. Psychological Medicine, *32*(6), 1049-1057.
- Ferdinand, R. F. & Verhulst, F. C. (1994). The prediction of poor outcome in young adults: comparison of the Young Adult Total symptoms, the General Health Questionnaire and the

Symptom Checklist. Acta Psychiatrica Scandinavica, 89(6), 405-410.

Fergusson, D. M. & Horwood, I. J. (1986). The effects of test reliability on relationship between measures of life events and depression. Social Psychiatry, 21(2), 53-62.

Finlay-Jones, R. (1981). Showing that life events are a cause of depression: A review. Australian and New Zealand Journal of Psychiatry, 15(3), 229-238.

Flett, G. L., Blankstein, K. R., Occhiuto, M., & Koledin, S. (1994). Depression, self-esteem, and complex attributions for life problems. Current Psychology, 13(3), 263-281.

Friis, R. H., Wittchen, H-U., Pfister, H., Lieb, R. (2002). Life events and changes in the course of depression in young adults. European Psychiatry, 17(5), 241-253.

Gable, S. L. & Nezlek, J. B. (1998). Level and instability of day-to-day psychological well-being and risk for depression. Journal of Personality and Social Psychology, 74(1), 129-138.

Gillis, J. S. & Lanning, K. (1989). Cognitive mediation of responses to life events. Behavioral Medicine, 15(1), 18-22.

Gillis, J. S. (1992). Stress, anxiety, and cognitive buffering. Behavioral Medicine, 18(2), 79-83.

Grant, A. M., Franklin, J., & Langford, P. (2002). The Self-Reflection and Insight Scale: A new measure of private self-consciousness. Social Behavior and Personality, 30(8), 821-835.

Greenwald, J. A. (1972). The ground rules in gestalt therapy. Journal of Contemporary Psychotherapy, 5(1), 3-12.

Gupta, R., Wig, N. N., Rao, U., Chawla, H., Khandelwal, S., & Varma, V. K. (1986). Symptom comparison of neurotic and psychotic depression: Using SADD schedule. Indian Journal of Psychological Medicine, 9(1), 22-25.

Haefel, G. J., Abramson, L. Y., Voelz, Z. R., Metalsky, G. I., Halberstadt, L., Dykman, B. M., Donovan, P., Hogan, M. E., Hankin, B. L., & Alloy, L. B. (2003). Cognitive vulnerability to depression and lifetime history of Axis I psychopathology: A comparison of Negative Cognitive Styles (CSQ) and Dysfunctional Attitudes (DAS). Journal of Cognitive Psychopathology, 17(1), 3-22.

Hammen, C. L. (1985). Predicting depression: A cognitive-behavioral perspective. In P. C. Kendall (Ed.), Advances in cognitive-behavioral research and therapy (Vol. 4, pp. 29-71). New York: Academic Press.

Hammen, C., Ellicott, A., & Gitlin, M. (1989). Vulnerability to specific life events and prediction of course of disorder in unipolar depressed patients. Canadian Journal of Behavioral Science, 21(4), 377-388.

Harkness, K. L., Monroe, S. M., Simons, A. D., & Thase, M. (1999). The generation of life events in recurrent and non-recurrent depression. Psychological Medicine, 29(1), 135-144.

Headey, B. & Wearing, A. (1989). Personality, life events, and subjective well-being: Toward a dynamic equilibrium model. Journal of Personality and Social Psychology, 57(4), 731-739.

Hick, J. (1988). Religious pluralism and salvation. Faith and Philosophy, 5(4), 365-377.

Hill, A. B. & Dutton, F. (1989). Notes and shorter communications: Depression and selective attention to self-esteem threatening words. Personality and Individual Differences, 10(8), 915-917.

Hill, P. C. & Pargament, K. I. (2003). Advances in the conceptualization and measurement of religion and spirituality. American Psychologist, 58(1), 64-74.

Hobson, C. J. & Delunas, L. (2001). National norms and life-event frequencies for the revised Social Readjustment Rating Scale. International Journal of Stress Management, 8(4), 299-314.

Hobson, C. J., Kamen, J., Szostek, J., Nethercut, C. M., Tiedmann, J. W., & Wojnarowicz, S. (1998). Stressful life events: A revision and update of the Social Readjustment Rating Scale. International Journal of Stress Management, 5(1), 1-23.

Holmes, T. H. & Rahe, R. H. (1967). The Social Readjustment Rating Scale. Journal of Psychosomatic Research, 11(2), 213-218.

Horney, K. (1937). The neurotic personality of our time. New York: W. W. Norton & Company, Inc.

Hoyer, J. & Klein, A. (2000). Self-reflection and well-being: Is there a healthy amount of introspection? Psychological Reports, 86(1), 135-141.

Huang, C. (1995). Hardiness and stress: A critical review. Maternal-Child Nursing Journal, 23(3), 82-89.

Huebner, S. E. & Dew, T. (1993). Is life satisfaction multidimensional? The factor structure of the Perceived Life Satisfaction Scale. Journal of Psychoeducational Assessment, 11(4), 345-350.

James, B. J. & Samuels, C. A. (1999). High stress life events and spiritual development. Journal of Psychology and Theology, 27(3), 250-260.

Johnson, J. H. & McCutcheon, S. (1980). Assessing life stress in older children and adolescents: Preliminary findings with the Life Events Checklist. In I. G. Sarason & C. D. Spielberger (Eds.), Stress and anxiety (Vol. 7, pp. 111-125). Washington, D. C.: Hemisphere.

Judge, T. A., Erez, A., Bono, J. E., & Thoresen, C. J. (2002). Are measures of self-esteem, neuroticism, locus of control, and generalized self-efficacy indicators of a common core construct? Journal of Personality and Social Psychology, 83(3), 693-710.

Kasch, K. L., Klein, D. N., & Lara, M. E. (2001). A construct validation study of the Response Styles Questionnaire Rumination Scale in participants with a recent-onset major depressive episode. Psychological Assessment, 13(3), 375-383.

Kasen, S., Cohen, P., Skodol, A. E., Johnson, J. G., Smailes, E., & Brook, J. S. (2001). Childhood depression and adult personality disorder: Alternative pathways of continuity. Archives of General Psychiatry, 58(3), 231-236.

Kernis, M. H., Grannemann, B. D., & Mathis, L. C. (1991). Stability of self-esteem as a moderator of the relation between level of self-esteem and depression. Journal of Personality and Social Psychology, 61(1), 80-84.

King, M. Speck, P. & Thomas, A. (2001). The royal free interview for spiritual and religious beliefs: Development and validation of a self-report version. Psychological Medicine, 31(6), 1015-1023.

Kiloh, L. G., Andrews, G., Neilson, M., & Bianchi, G. N. (1972). The relationship of the syndromes called endogenous and neurotic depression. British Journal of Psychiatry, 121, 183-196.

Kipper, D. A. & Furcon, J. (1981). Factors underlying the Social Readjustment Rating Scale. Personality and Individual Differences, 2(1), 31-36.

Kobasa, S. C. (1979). Stressful life events, personality, and health: An inquiry into hardiness. Personality and Social Psychology, 37(1), 1-11.

Koenig, H. G. & Larson, D. B. (2001). Religion and mental health: Evidence for an association. International Review of Psychiatry, 13(2), 67-78.

Kohut, H. (1971). The analysis of the self. Madison, CT: International Universities Press, Inc.

Kohut, H. & Wolf, E. S. (1978). The disorders of the self and their treatment: An outline. The International Journal of Psycho-analysis, 59(4), 413-425.

Kua, E. H., Ko, S. M., Ung, K. E. K., & Fones, C. S. L. (2000). Stress and mental distress. Singapore: SNP Panpac Pte Ltd.

Kuyken, W., Kurzer, N., DeRubeis, R. J., Beck, A. T., & Brown, G. K. (2001). Response to cognitive therapy in depression: The role of maladaptive beliefs and personality disorders. Journal of Consulting and Clinical Psychology, 69(3), 560-566.

Kwon, P. & Lemon, K. E. (2000). Attributional style and defense mechanisms: A synthesis

- of cognition and psychodynamic factors in depression. Journal of Clinical Psychology, 56(6), 723-735.
- Lilienfeld, S. O. & Penna, A. (2001). Anxiety sensitivity: Relations to psychopathy, DSM-IV personality disorder features, and personality traits. Journal of Anxiety Disorders, 15(5), 367-393.
- Linden, W. (1984). Development and initial validation of a life event scale for students. Canadian Counsellor, 18(3), 106-110.
- Lindfors, O., Hannula, J., Aalberg, V., Kaarento, K., Kaipainen, M., & Pylkkaenen, K. (1995). Assessment of the effectiveness of psychotherapy. Psychiatria Fennica, 26, 150-164.
- Longmore, M. & Demaris, A. (1997). Perceived inequity and depression in intimate relationships: The moderating effect of self-esteem. Social Psychology Quarterly, 60(2), 172-184.
- Maciejewski, P. K., Prigerson, H. G., & Mazure, C. M. (2000). Self-efficacy as a mediator between stressful life events and depressive symptoms: Differences based on history of prior depression. British Journal of Psychiatry, 176, 373-378.
- Maltby, J. (1999). The internal structure of a derived, revised, and amended measure of the Religious Orientation Scale: The 'Age-Universal' I-E Scale-12. Social Behavior and Personality, 27(4), 407-412.
- de Man, A. F., Becerril Gutierrez, B. I., & Sterk, N. (2001). Stability of self-esteem as moderator of the relationship between level of self-esteem and depression. North American Journal of Psychology, 3(2), 303-308.
- Masterson, J. F. (1987). Borderline and narcissistic disorders: An integrated developmental object-relations approach. The borderline patient. Hillsdale, NJ: Analytic Press.
- Masterson, J. F. (1992). The vital therapeutic alliance with borderline and narcissistic patients: A developmental, self and object-relations approach. The evolution of psychotherapy: The second conference. New York: Brunner/Mazel.
- Mazure, C. M., Maciejewski, P. K., Jacobs, S. C., & Bruce, M. L. (2002). Stressful life events interacting with cognitive/personality styles to predict late-onset major depression. The American Journal of Geriatric Psychiatry, 10(3), 297-304.
- Mazure, C. M., Raghavan, C., Maciejewski, P. K., Jacobs, S. C., & Bruce, M. L. (2001). Cognitive-personality characteristics as direct predictors of unipolar major depression. Cognitive Therapy and Research, 25(2), 215-225.
- McCrae, R. R. (1993). Openness to experience as a basic dimension of personality. Imagination, Cognition and Personality, 13(1), 39-55.
- Miller, W. R. & Thoresen, C. E. (2003). Spirituality, religion, and health: An emerging research field. American Psychologist, 58(1), 24-35.
- Morey, L. C. & Zanarini, M. C. (2000). Borderline personality: traits and disorder. Journal of Abnormal Psychology, 109(4), 733-737.
- Nelson, P. B. (1990). Intrinsic/extrinsic religious orientation of the elderly: Relationship to depression and self-esteem. Journal of Gerontological Nursing, 16(2), 29-35.
- Nolen-Hoeksema, S. (1996). Correspondence email address nolen@umich.edu. [2003, April 14].
- Nolen-Hoeksema, S., Morrow, J., & Fredrickson, B. L. (1993). Response styles and the duration of episodes of depressive mood. Journal of Abnormal Psychology, 102(1), 20-28.
- Norris, F. H. & Murrell, S. A. (1984). Protective function of resources related to life events, global stress, and depression in older adults. Journal of Health and Social Behavior, 25(4), 424-437.
- Oliver, J. M. & McGee, J. (1982). Cognition as a function of depression in a student population: Content and complexity of cognitions. Cognitive Therapy and Research, 6(3), 275-286.
- Oman, D. & Thoresen, C. E. (2002). 'Does religion cause health?': Differing interpretations

and diverse meanings. Journal of Health Psychology, 7(4), 365-380.

Paradise, A. W. & Kernis, M. H. (2002). Self-esteem and psychological well-being: Implications of fragile self-esteem. Journal of Social and Clinical Psychology, 21(4), 345-361.

Parker, G., Hadzi-Pavlovic, D., Roussos, J., Wilhelm, K., Mitchell, P., Austin, M-P, Hickie, I., Gladstone, G., & Eysers, K. (1998). Non-melancholic depression: The contribution of personality, anxiety and life events to subclassification. Psychological Medicine, 28(5), 1209-1219.

Pavot, W. G., Diener, E., Colvin, C. R., & Sandvik, E. (1991). Further validation of the Satisfaction with Life Scale: Evidence for the cross-method convergence of well-being measures. Journal of Personality Assessment, 57(1), 149-161.

Paykel, E. S., Myers, J. K., Dineen, M. N., Klerman, G. L., Lindenthal, J. J., & Pepper, M. P. (1969). Life events and depression: A control study. Archives of General Psychiatry, 21(6), 753-760.

Pengilly, J. W. & Dowd, E. T. (2000). Hardiness and social support as moderators of stress. Journal of Clinical Psychology, 56(6), 813-820.

Petrocelli, J. V., Glaser, B. A., Galhoun, G. B., & Campbell, L. F. (2001). Cognitive schemas as mediating variables of the relationship between the self-defeating personality and depression. Journal of Psychopathology and Behavioral Assessment, 23(3), 183-191.

Pettit, J. W. & Joiner, T. E. Jr. (2001). Negative life events predict negative feedback seeking as a function of impact on self-esteem. Cognitive Therapy and Research, 25(6), 733-741.

Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for the general population. Applied Psychological Measurement, 1(3), 385-401.

Reeves, A. L., Watson, P. J., Ramsey, A., & Morris, R. J. (1995). Private self-consciousness factors, need for cognition, and depression. Journal of Social Behavior and Personality, 10(2), 431-443.

Rhodewalt, F. & Agustsdottir, S. (1984). On the relationship of hardiness to the Type A behavior pattern: Perception of life events versus coping with life events. Journal of Research in Personality, 18(2), 212-223.

Roberts, J. E. & Kassel, J. D. (1996). Mood-state dependence in cognitive vulnerability to depression: The roles of positive and negative affect. Cognitive Therapy and Research, 20(1), 1-12.

Roberts, S. B. & Kendler, K. S. (1999). Neuroticism and self-esteem as indices of the vulnerability to major depression in women. Psychological Medicine, 29(5), 1101-1109.

Robins, C. J., Block, P., & Peselow, E. D. (1990). Cognition and life events in major depression: A test of the mediation and interaction hypotheses. Cognitive Therapy and Research, 14(3), 299-313.

Rosenberg, M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press.

Ross, C. E. & Mirowsky II, J. (1979). A comparison of Life-Event-Weighting Schemes: Change, undesirability, and effect-proportional indices. Journal of Health and Social Behavior, 20(2), 166-177.

Rutherford, D. (1999). Salvation as a state of mind: The place of acquiescentia in Spinoza's Ethics. British Journal for the History of Philosophy, 7(3), 447-473.

Schimmack, U., Radhakrishnan, P., Oishi, S., Dzokoto, V., & Ahadi, S. (2002). Culture, personality, and subjective well-being integrating process models of life satisfaction. Journal of Personality and Social Psychology, 82(4), 582-593.

Schnittker, J. (2001). When is faith enough? The effects of religious involvement on depression. Journal for the Scientific Study of Religion, 40(3), 393-411.

Shaw, B. F. (1985). Closing commentary: Social cognition and depression. Social Cognition, 3(1), 135-144.

Sherer, M., Maddux, J. E., Mercandante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R. W. (1982). The Self-efficacy Scale: Construction and Validation. Psychological Reports, *51*(2), 663-671.

Shrout, P. E., Link, B. G., Dohrenwend, B. P., Skodol, A. E., Stueve, A., & Mirotznik, J. (1989). Characterizing life events as risk factors for depression: The role of fateful loss events. Journal of Abnormal Psychology, *98*(4), 460-457.

Simons, A. D., Angell, K. L., Monroe, S. M., & Thase, M. E. (1993). Cognition and life stress in depression: Cognitive factors and the definition, rating, and generation of negative life events. Journal of Abnormal Psychology, *102*(4), 584-591.

Smith, S. M. & Petty, R. E. (1995). Personality moderators of mood congruency effects on cognition: The role of self-esteem and negative mood regulation. Journal of Personality and Social Psychology, *68*(6), 1092-1107.

Sinclair, R. R. & Tetrick, L. E. (2000). Implications of item wording for hardiness structure, relation with neuroticism, and stress buffering. Journal of Research in Personality, *34*(1), 1-25.

Sobel, M. E. (1982). Asymptotic intervals for indirect effects in structural equations models. In S. Leinhardt (Ed.), Sociological methodology (pp. 290-312). San Francisco: Jossey-Bass.

Solcova, I. & Tomanek, P. (1994). Daily stress coping strategies: An effect of hardiness. Studia Psychologica, *36*(5), 390-392.

Sontag, F. (1984). Can we think of salvation as a return to mental health? Faith and Philosophy, *1*(3), 316-326.

Stokols, D. (1985). A congruence analysis of human stress. Issues in Mental Health Nursing, *7*(1-4), 35-64.

Suls, J. & Mullen, B. (1981). Life events, perceived control and illness: The role of uncertainty. Journal of Human Stress, *7*(2), 30-34.

Tausig, M. (1982). Measuring life events. Journal of Health and Social Behavior, *23*(1), 52-64.

Tillema, J. L., Cervone, D. & Scott, W. D. (2001). Negative mood, perceived self-efficacy, and personal standards in dysphoria: The effects of contextual cues on self-defeating patterns of cognition. Cognitive Therapy and Research, *25*(5), 535-549.

Tobin, S. A. (1991). A comparison of psychoanalytic self psychology and Carl Rogers's Person-centered therapy. Journal of Humanistic Psychology, *31*(1), 9-33.

Trapnell, P. D. & Campbell, J. D. (1999). Private self-consciousness and the Five-Factor Model of Personality: Distinguishing rumination from reflection. Journal of Personality and Social Psychology, *76*(2), 284-304.

Treynor, W., Gonzalez, R., Nolen-Hoeksema, S. (in press). Rumination reconsidered: A psychometric analysis. Cognitive Therapy and Research. [2003, April 14].

Tripp, D. A., Catano, V., & Sullivan, M. J. L. (1997). The contributions of attributional style, expectancies, depression, and self-esteem in a cognition-based depression model. Canadian Journal of Behavioural Science, *29*(2), 101-111.

Tyrer, P. (1991). Neuroses and personality disorders. Concepts of mental disorder: A continuing debate. Washington, D. C.: American Psychiatric Press.

Valiant, G. L. (1993). Life events, happiness and depression: The half empty cup. Personality and Individual Differences, *15*(4), 447-453.

Viinamaki, H., Hintikka, J., Honkalampi, K., Koivumaa-Honkanen, H., Kuisma, S., Antikainen, R., Tanskanen, A., & Lehtonen, J. (2002). Cluster C personality disorder impedes alleviation of symptoms in major depression. Journal of Affective Disorders, *71*(1-3), 35-41.

Wiebe, D. J. (1991). Hardiness and stress moderation: A test of proposed mechanisms. Journal of Personality & Social Psychology, *60*(1), 89-99.

Wiebe, D. J. & Williams, P. G. (1992). Hardiness and health: A social psychophysiological perspective on stress and adaptation. Journal of Social & Clinical Psychology, *11*(3), 238-262.

Wilson, A. R. & Krane, R. V. (1980). Change in self-esteem and its effects on symptoms of depression. Cognitive Therapy and Research, 4(4), 419-421.

Wiznitzer, M., Verhulst, F. C., van den Brink, W., Koeter, M., van den Ende, J., Giel, R., & Koot, H. M. (1992). Detecting psychopathology in young adults: the Young Adult Self Report, the General Health Questionnaire and the Symptom Checklist as screening instruments. Acta Psychiatrica Scandinavica, 86(1), 32-37.

Wolfenstein, M. & Trull, T. J. (1997). Depression and openness to experience. Journal of Personality Assessment, 69(3), 614-632.