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CLARIFYING THE RELATIONSHIP BETWEEN EMOTION REGULATION, GENDER, AND DEPRESSION

by

Emi Sumida

A dissertation submitted in partial fulfillment
of the requirements for the degree

of

DOCTOR OF PHILOSOPHY

in

Psychology

Approved:

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UTAH STATE UNIVERSITY
Logan, Utah

2010

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ABSTRACT

Clarifying the Relationship between Emotion Regulation,

Gender, and Depression

by

Emi Sumida, Doctor of Philosophy

Utah State University, 2010

Major Professor: David Stein, Ph.D.
Department: Psychology

This study investigates the relation between emotion regulation problems and clinical depression. One goal of the present study was to bring increased clarity and parsimony to how emotion regulation is presently measured by consolidating three widely used instruments. In addition, of interest was an investigation of whether particular emotion regulation problems and management strategies interact with gender to predict either severity of overall depression symptoms or the presence of a formal mood disorder diagnosis. The results clearly showed that irrespective of a person's gender, particular emotion regulation indicators, both singly, and in combination, are, indeed, more strongly related to the severity of depression symptoms. Specific to the severity of self-reported depression within these 17 emotion regulation subscales are: (a) Difficulty Identifying Feelings (TAS-20 subscales); (b) Limited Accessed to Emotion Regulation Strategies (DERS subscale); (c) Positive Refocusing (CERQ subscale); (d) Self-Blame

(CERQ subscales); and (e) Refocus on Planning (CERQ subscales). According to results, the two emotion regulation constructs specifically distinguish DSM mood disordered from nondisordered subjects: Factor 2: Loss of Control over Behavior and Perceived Helplessness; and Factor 6: Assuming, Accepting Blame or Responsibility. These two constructs are also included in the five subscales that form a linear combination accounting for maximum variance in BDI-II. When considered together, the results of the present study suggest that these two emotion regulation factors seem to be the most important in predicting not only severity of depression, but also in helping to provide diagnostic information of clinical depression (differentiating people with DSM Major Depressive Episode and Mood Disorder NOS, versus those without a mood disorder).

(152 pages)

ACKNOWLEDGMENTS

There are a number of people to whom I would like to express my appreciation for my dissertation project. I would like to acknowledge the support and guidance provided by my dissertation chairman, Dr. David Stein, and my dissertation committee members, Scott DeBerard, Ph.D., David Bush, Ph.D., Julie Gast, Ph.D., and Michael Twohig, Ph.D. Without their support, I would not have been able to complete this project. I also want to express my appreciation to numerous research assistants who joined this research project. Their effort and dedication made this project possible to collect the data in a timely manner. These included Sarah Stevens, Karil Hunt, Rachael Wicker, Steven Nickolaisen, and Alyssa Miketta.

I want to express great thanks to my friends and family. Their support and encouragement sustained me throughout this project.

Emi Sumida

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CHAPTER I

INTRODUCTION

Keltner and Gross (1999) defined emotion as a periodic, relatively short-term, biologically based pattern of perception, experience, physiological reaction and communication that occurs in response to specific physical and social challenges. Contemporary researchers address the function of emotions in ameliorating survival-relevant problems (Ekman, 1992; Johnson-Laird, & Oatley, 1992). In addition, current theories of emotion state that emotions serve to improve well-being, such as informing people about deficits in meeting their interpersonal and social support needs and or other personal needs and goals (Elliott, Watson, Goldman, & Greenberg, 2003). For instance, emotional experiences (e.g., happiness, sadness anger, fear, shame, and guilt) can motivate one to action or help or allow one to evaluate in the situation.

Emotion regulation is a key element of most theories of emotion (e.g., Cole, Michel, & Teti, 1994; Frijda, 1986; Greenberg, 2002; Greenberg & Paivio, 1997; Greenberg & Safran, 1987; Lazarus, 1991). It explains more specifically how people experience, modulate, and organize emotion, and how such management impacts human behavior (Elliott et al., 2003).

Emotion Regulation, and How Should It Be Measured

To date, a clear operational definition of adaptive and maladaptive emotional regulation has generally eluded researchers and clinicians. Cole et al. (1994) suggested, “Emotion regulation is an ongoing process of the individuals’ emotion pattern in relation

to moment-by-moment contextual demands." Emotion regulation is indispensable for a healthy psychological state. For instance, Elliott et al., (2003) suggested that adaptive emotion regulation allows people to increase their tolerance of distressing situations by attaching a new meaning to their emotions. Furthermore, Shiota, Campos, Keltner and Hertenstein (2004) indicated that individuals' effective emotion regulation ability is vital to the development of healthy interpersonal relationships. According to emotion theory (Elliott et al., 2003), the emotional demands one experiences and the regulatory ability each individual possesses tend to differ. In fact, one's emotional patterns help create characteristics of the individual's psychological state and/or personality (Cole et al., 1994).

Gratz and Roemer's (2004) outline of emotional regulation problems emphasizes the following: (a) fundamental to emotional regulation is *awareness of one's emotional stat*e; some individuals cannot identify and label negative or aversive emotions; (b) adaptive emotional regulation requires the ability to not only recognize emotions, but to also have some degree of acceptance of them as well (versus ignoring, escaping/avoiding emotions, etc.); (c) poor emotion regulation can be inferred from certain behavioral problems, such as lack of impulse control when one is angry, upset, etc; and (d) adaptive emotional regulation allows one to effectively pursue needs and goals, despite experiencing negative or aversive emotions. That is, adaptive emotion regulation allows an individual to continue to pursue healthy goal-directed behavior, despite their distress.

Eisenberg and Spinrad (2004) defined emotion regulation as " the process of initiating, avoiding, inhabiting, maintaining, or modulating the occurrence, form, intensity, or duration of internal feeling states, emotional related physiological, attentional process, motivational states, and/or the behavioral processes, motivational states, and/or the behavioral concomitants of emotion in the services of accomplishing affect-related biological or social adaptation or achieving in individual goals." In contemporary literature on emotion regulation, several researchers (Bridges, Denham & Ganihan, 2004; Koole, 2009) pointed out the need to consolidate conceptualizations of emotion regulation. There is not yet a clear agreement among researchers regarding the elements to be included versus excluded in such a conceptualization. For instance, the disagreement among researchers about what constitutes emotion regulation has influenced the creation of operational definitions of this concept.. Some researchers put strong emphasis on individuals' abilities to *identify emotions* as one of most fundamental parts of emotion regulation. Other researchers focus on an individual's effort to *avoid* an emotion provoking *situation* prior to its occurrence as the essential part of emotion regulation. Furthermore, controversy exists about how biology contributes to the ability to regulate emotion (Koole, 2009). Biological factors may include *temperament* or *individual sensitivity to emotional experiences* that influence emotion regulation,

The lack of consensus among experts about the definition of emotion regulation has lead to the development of various measurements that are base don different conceptualizations of the construct. These measures are heavily influenced by experts' differing beliefs about what constitute emotion regulation. In the processes of designing

emotion regulation research studies, previous researchers elected to choose from among diverse measures, none of which reflect a general consensus about a definition, or general model of emotion regulation. For instance, The Toronto Alexithymia Scale-20 (TAS-20: Bagby, Taylor, & Parker, 1994) is a widely used assessment in the arena of emotion regulation to assess individuals' fundamental ability to identify and express emotions. The Cognitive Emotion Regulation Questionnaires (CERQ: Garnefski, Kraaij, & Spinhoven, 2002) is also commonly used in emotion regulation studies. This measure emphasizes the idea that emotion regulation through cognition is a vital part of human emotional experience. The Difficulty in Emotion Regulation Scale is yet another, quite different approach to assessing aspects of emotion regulation (DERS: Gratz & Roemer, 2004; see Appendix A). It purports to assess "multidimensional concepts" of emotion regulation. That is, it seeks to measure maladaptive emotion regulation abilities on a psychological level (non-acceptance of emotion response, lack of emotional awareness and clarity) as well as *behavioral* aspect of emotion regulation difficulty (e.g., impulse control difficulties). Unlike the TAS-20 and CERQ mentioned previously, it places little focus on regulation of emotion through cognitive processes. In summary, there may presently be a need to better consolidate current conceptualizations of emotion regulation and how it is measured, given the diverse views about the construct.

Emotion Regulation Problems and Psychopathology

In addition to challenges regarding the definition and measurement of emotion regulation, researchers and clinicians are in the early stages of identifying whether

particular emotion regulation problems are associated with particular mental disorders. According to the Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM-IV; American Psychological Association, 1994), a disturbance in one's emotion regulatory system may have a strong association with the development of certain mental health problems. For instance, mood disorders are among the major complaints for which people seek mental health services (Gross & Munoz, 1995). Multiple theories propose that a lack of emotion regulation (or maladaptive regulation) can contribute to depression, anxiety, eating disorders, and borderline personality disorder (Martin & Dahlen, 2005). Huang and Guo (2001) suggested that individuals with higher levels of depression had limited emotion regulation skills, leading to more rumination, avoidance and suppression of positive emotion. Also, Martin and Dahlem (2005) discovered that individuals with depressive symptoms demonstrated a higher prevalence rate in the area of maladaptive emotion regulation (e.g., rumination, self-blame when experiencing acute negative emotion) and lower in the area of adaptive emotion regulation (e.g., positive reappraisal, acceptance, and putting into perspective).

While emotion dysregulation has been hypothesized to be generally associated with the development of depression, investigators have yet to examine whether deficits in particular emotion regulation (skills) may be associated with *the number and severity* of depression symptoms. Clearer identification of which emotion regulation problems vary with the number of depression symptoms and their severity, could lead to improved emotion regulation treatment approaches in this area.

Additionally, gender is a factor that might possibly be associated with particular emotion regulation problems, as it is evidenced in particular disorders. It is well-known that worldwide, rates of clinical depression for women are twice as high as those for men. Also, a number of clinicians and researchers have speculated that men and women differ in their emotional regulation strategies, skills and problems. However, there are conflicting research results in the literature regarding possible gender differences in emotion regulation. For example, Watson and Sinha (2008) demonstrated that the male subjects scored higher in the area of emotional inhibition; while the female subjects were better at aggression control and benign control. On the other hand, Gratz and Roemer (2004) sought to operationally define difficulties or problems in the regulation of emotions in developing the Difficulty Emotion Regulation Scale (DERS). Based on their initial review of the most prominent and relevant emotion regulation constructs, they created an inventory that reflected five key factors: (a) awareness and understanding of emotions, (b) acceptance of emotions, (c) ability to control impulsive behavior, (d) ability to control behavior in accordance with desired goals when experiencing negative emotion, and (e) ability to use situation-appropriate emotion regulation strategies flexibly to modulate emotional responses as desired in order to meet individual goals and situational demand. Interestingly, Gratz and Roemer (2004) found no significant differences in group mean scores for male versus females in the general college population on their measure of these four factors except for awareness and understudying of emotion. Their results suggest that male college subjects have lower emotional awareness than female college subjects.

A clearer understanding of the basic association between mood disorders and emotion regulation, and whether these associations vary according to gender has implications for improving the treatment of depression. Campbell-Sills and Barlow (2007) emphasize that particular mainstream therapies for anxiety and mood disorders reflect an awareness of the need to improve patients' emotion regulation. For instance, these researchers note that cognitive-behavioral therapies commonly emphasize the role of cognitive reappraisal and "acting one's way into a new feeling," as important in cognitive therapy, as is the strategy of preventing emotional avoidance. Campbell-Sills and Barlow (2007), however, recognize that our understanding of the nature of emotion regulation problems in mood disorders, and its role in treatment is quite incomplete.

In consideration of the issues raised above, one goal of the present study was to bring increased clarity and parsimony to how emotion regulation is presently measured by consolidating three widely-used instruments. In addition, of interest was an investigation of whether particular emotional regulation problems and management strategies interact with gender to predict either severity of overall depression symptoms, or the presence of a formal mood disorder diagnosis.

CHAPTER II

REVIEW OF THE LITERATURE

This review of literature provides the necessary background for justifying a study of the association between individuals' emotion dysregulation, the severity of depression and their possible relationship to gender. This review will begin with a discussion of the importance of emotions for human survival and also the significance of emotion regulation for a healthy psychological state. According to emotion theory (Frijda, 1986), the function of emotion and emotional regulation strongly impact people's mental health and sense of well-being (Gross, 2007).

Relatedly, the literature review will present the major conceptualizations of emotion regulation and will highlight apparent areas of consensus and disagreement about the features of behavior, person and/or environment that should be included. Current thought about what constitutes healthy emotion regulation in normal adults, as well as maladaptive emotion regulation will be summarized. The differences in these conceptualizations are reflected in the diverse measures of emotion regulation or coping developed by various researchers. Therefore, a brief review of the core content and features of the most frequently used measures of emotion regulation will be included in the review.

The impact of emotion regulation/dysregulation on psychopathology will also be briefly discussed. A summary of evidence showing that emotional regulation problems are more widespread among contemporary mental disorders than is typically appreciated will be presented. Such problems sometimes comprise formal diagnostic criteria in the

DSM-IV (American Psychiatric Association, 1994). Of key interest in the present dissertation study is the relation between emotion regulation and depression. A summary of current understanding of emotion regulation problems and their possible association with depression will be presented. Relatedly, examples of how emotion regulation training is gradually being incorporated in modern psychotherapy will be also presented. This trend helps highlight the need for more investigations into the relation between emotional regulation and mental health problems, because it has direct implications for improving psychotherapy.

In addition, gender differences in the prevalence and manifestation of mood disorders, and possible implications for conceptualizing emotion regulation differences between men and women will be discussed. This review will conclude with a rationale for conducting this study to investigate association between depression and an individual's specific deficits in emotion regulation.

The Role and Function of Emotions

Generally, two competing branches (Frijda, 1986) of thought suggest that the conceptual bases for the role of emotions are still open to debate. The concept of the role of emotions from a strict behavioral standpoint states that they are mostly short-term, episodic, biologically based, and their expression is quite dependent on the environment or situational factors. Experiences and patterns of communications in response to an array of social, cognitive, and physical demands in an individuals' environment appear to be associated with the "trigger" of emotions (Keltner & Gross, 1999). In contrast to this

perspective, others support the concept that emotions are less determined by environmental stimuli. Rather, some researchers such as Scherer (1988) see emotions as much more adaptable and less reflexive to stimuli.

The functions of emotions have been well-described in the literature (Keltner & Gross, 1999). First, emotions are mechanisms used by individuals to solve survival-related problems, such as forming attachments, maintaining cooperative relations, or avoiding psychical threats (Ekman, 1992; Johnson-Laird & Oatley, 1992; Leavenson, 1994; Oately & Jenkins, 1992). Second, Keltner and Gross (1999) suggest that emotions serve to coordinate a vast array of competing internal and external stimuli. In their view, emotional systems are composed of separate neural and cognitive sub-systems. These interact with other neural and cognitive systems to provide solutions for an individual's physical and psychological demands. Emotions are consequences of the function of emotional systems.

Thus, emotions play significant roles in various areas of human life such as survival, physical and mental health, and social interactions with others. Gohm and Clore (2002) studied four latent traits of emotional experience: (a) intensity, (b) attention, (c) expression, and (d) clarity, in terms of the involvement of these dimensions of people's well-being, coping, and attribution style. They discovered that individuals who are high in clarity are able to more readily identify emotions, which predicts the highest sense of well-being such as satisfaction in life. Such a finding may infer that an affect-based therapy may be especially beneficial for treatment for mental, physiological, intra- and interpersonal problems among persons who have difficulty identifying and expressing

emotions (Gross, 2007). Therefore, according to Gross, it is critical to understand the functions of emotion in order to understand the potential negative impact of limited emotional regulation on the individual's psychological state. If the account of emotional functioning works poorly, an individual has limited fundamental capacity to regulate emotion.

Theoretical Issues Regarding Emotion Regulation and Psychopathology

Emotion Theory and Emotion Regulation

Emotion theory (e.g., Frijda, 1986; Greenberg, 2002; Greenberg & Paivio, 1997; Greenberg & Safran, 1987; Lazarus, 1991) suggests that emotions are adaptive in nature and help the individual process complex information rapidly by design. This process occurs in order to help the individual produce the necessary action suitable for meeting their personal needs and goals. For example, if a person sees a bus coming at them, the emotion of fear or panic will prompt them to immediately move from its path, without any forethought In most cases in everyday life however, emotions can help the individual sort out what is central for their well-being prior to taking action. Furthermore, emotions allow an individual to utilize their past experiences to gain a sense of direction in decision making.

According to Elliott and colleagues (2003), there are three core theoretical elements of emotion theory: (a) emotion schemes; (b) emotion response forms, and (c) emotion regulation. Emotion theory also posits two emotion regulatory systems: (a)

adaptive emotion regulation, and (b) emotion regulation dysfunction, which affect individuals' psychological conditions. These regulatory systems will be defined in the sections below.

Definition of Emotion Regulation

In the contemporary literature, a lack of consensus regarding operational definitions of emotion regulation appears to have created challenges to researchers, and clinicians alike. However, several key theorists have offered their definitions of emotion regulation based on their understanding of emotion and related affective processes.

Gross (2007) noted that emotion regulation impacts an individual's general experience with emotions: (a) what to feel, (b) when to feel, (c) how to feel, and (d) how to express oneself. Furthermore, he emphasizes that emotion regulation models require mechanisms for emotion reduction, enhancement, and maintenance---a view held by most other theorists (Ciccheti, Ackerman, & Izard, 1995: Gross, 1998a). Gross proposed that the emotion regulation process can occur consciously or unconsciously. This particular view is also held by most theorists. For example, Koole (2009) refers to deliberate, versus "automatic and effortless" regulation in his conceptualization of emotion regulation.

Gross and Muñoz (1995) also proposed two modules of emotion regulation: a) antecedent-focused emotion regulation and b) response-focus emotion regulation. These two modules of emotion regulation were introduced to researchers and clinicians in the early stages of contemporary research in emotion regulation. Antecedent-focus emotion regulation pertains to actions that affect whether a given emotion occurs. This form of

emotion regulation involves *modifying the external or internal environment*, thereby modifying the input to the emotional system (Gross, 2007: Holodynski & Friedlmeier, 2006). Response-focus emotion regulation occurs after emotion has already been activated. A familiar example of response–focused emotion regulation is a 'poker face' where an individual masks their delight at holding a winning hand in a card game.

Koole (2009) offered a broad definition of emotion regulation. He believes the concept must account for how emotion guide an individual's *attentional* processes, the *cognitive appraisals* that help alter our emotional experiences, as well the ways people manage the *physiological consequences of emotions*. Emotion regulation can be defined as, "…the set of processes whereby people seek to redirect the spontaneous flow of their emotions." Unlike other theorists (e.g., Southam-Gerow & Mandell, 2002), Koole (2009) did not include the role the external environment plays in directing emotional change e.g., parents' direct attempts to soothe the hurt feelings of a son or daughter. Koole's view of emotion regulation (2009) focuses on healthy adults, but has implications for psychopathology. Thus, most theorists recognize that emotion regulation serves to alter both positive and negative emotion (e.g., Gross, 2004; Koole, 2009).

Eisenberg and Spinrad's (2004) working definition of self-regulated emotion bears similarities to those just discussed. It involves, "the process of initiating, avoiding, inhibiting, maintaining, or modulating the occurrence, form, intensity, or duration of internal feeling states, emotional-related physiological, attentional processes, motivational states, and/or the behavioral concomitants of emotion in the service of

accomplishing affect-related biological or social adaptation or achieving individual goals".

Prominent Models of Emotion Regulation

Emotion regulation researchers have proposed various models to demonstrate their conceptualization of emotion regulation, such as Campos, Frankel, and Camras' (2004) two factors model, Gross's Process Model of Emotion Regulation (Gross 2007), and (Koole, 2009) model. Within the general context of the ongoing debates as to what constitutes emotion regulation and its functions, most models recognize that for most people, emotion regulation involves *management strategies that are primarily cognitive, or primarily behavioral*. Also, they all agree that emotion regulation can be conscious, deliberate, or automatic (a person doesn't think about it, has little insight, etc.). Most models differentiate between adaptive (healthy) and maladaptive emotion regulation and all authors are very interested in better understanding how it relates to psychopathology. Most models would also probably argue that *emotion regulation is primarily learned* and that a major feature of healthy emotion regulation is the controlling influence of cognition, mindfulness, "executive functions", etc.; and that healthy people use a wider range of emotion regulation approaches than people with significant mental disorders (people who don't have any strategies or few strategies, such as individuals with Alexithymia). Most models also agree that emotional perception and expression is a different concept than emotion regulation.

Campos et al. (2004) proposed two factor models (see Figure 1) to understand function of emotion regulation. The first factor includes a process that generates

Figure 1. Two factor models (Campos, Frankel, & Camras, 2004).

emotion. The second factor takes account of managing an emotion after it is elicited. These two factors can be used to appropriately manage or mismanage emotion.

On the other hand, Gross (2007) suggested that emotion regulation is a part of affect regulation along with coping, mood regulation and psychological defenses. Gross conceptualizes coping as something different than emotion regulation per se, because coping refers to the engaging in psychological effort or goal-directed behaviors that increase pleasure or decrease pain for extended time (e.g., bereavement). Gross's proposed a "Process Model of Emotion Regulation (see Figure 2)" contains five strategies in emotion regulation: (a) situation selection, (b) situation modification, (c) attentional development, (d) cognitive changes, and (e) response modulation. This model provides a framework to organize the functions of emotion regulation as well as help individuals to understand their experiences of regulating emotion.

In situation selection strategy, an individual consciously chooses actions that place them in a situation leading to desirable or undesirable emotions. This strategy requires an understanding of the likely outcomes and expectable emotional responses to a variety of situations. Situation modification strategy involves manipulating the environment to create a situation favorable for the desired emotion response. Examples of situation modifications would be including providing verbal remarks for children's

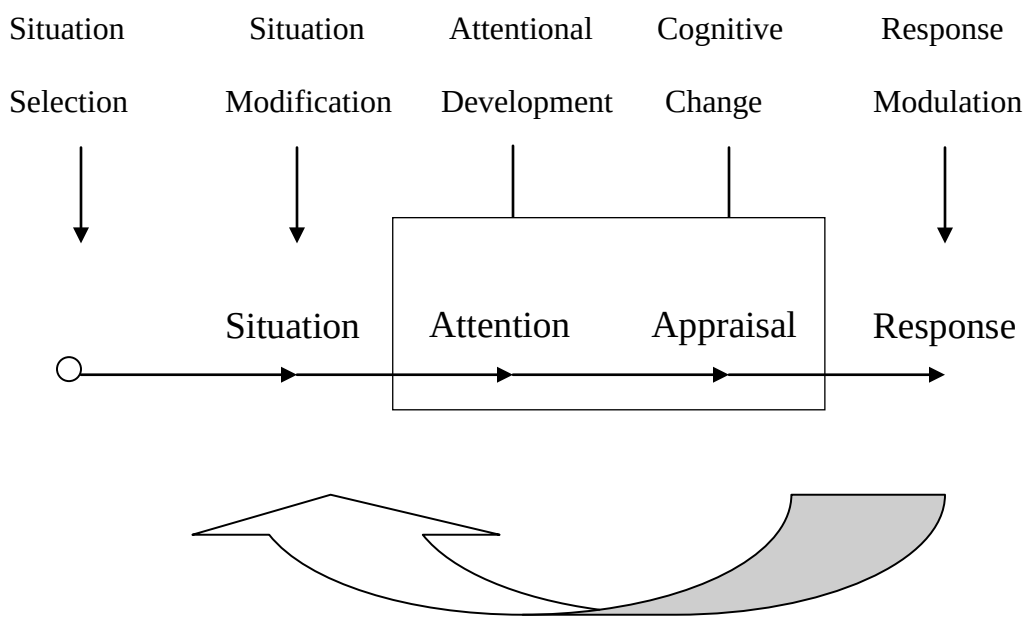

Figure 2. Process model of emotion regulation (Gross, 2007): five major components.

behaviors or hiding pictures that may upset guests for a party. Attentional development strategy refers to how and where individuals choose to put their attention within a situation in order to achieve a desired emotional response. Cognitive change strategy refers to an individual altering their perception or assessment of a given situation, thereby affecting its emotional significance. Cognitive change is achieved when an individual changes their thoughts about a situation, or about their capacity to manage the demands the situation poses. Response modulation strategy refers to an individual directly influencing and modifying experiential psychological, physiological, and behavioral responses. Response modulation can only take place after emotions have been generated and response tendencies have been instigated.

The unique characteristics of the Process Model of Emotion Regulation compared to other emotion regulation models, Gross (2007) include situational selection and situation modification as significant emotion regulation strategies. Gross proposed that individuals' abilities to attend and manipulate their environment are important emotion regulation strategies for increasing the likelihood of desirable emotional experiences.

On the other hand, Kuhl (2008) and Koole (2009) proposed the Model of Emotion Sensitivity versus Emotion Regulation that takes into account biological factors such as temperament and individual differences in emotional sensitivities. The model consists of two reactions: (a) primary reaction, and (b) secondary reaction. The primary reaction implies that individuals' emotional experiences are heavily impacted by their level of emotional sensitivity. Individuals with high emotional sensitivity will quickly have a high level of emotional response. Individuals with low emotional sensitivity will take a longer time to reach high levels of emotional response. After individuals reach a high level of emotional response, they experience the secondary reaction which involves emotion regulation. The secondary response consists of two types of emotion regulation: (a) up-regulation, and (b) down-regulation. Up-regulation increases the degree of emotional response and down-regulation decreases the magnitude of emotional response (see Figure 3).

Koole (2009) also organizes the emotion regulation strategies using three emotion-generating systems: (a) attention, (b) knowledge representation, and (c) body manifestations of emotion, and three psychological functions: (a) need-oriented, (b) goal-oriented, and (c) person-oriented. Koole (2009) identifies the relevant empirical

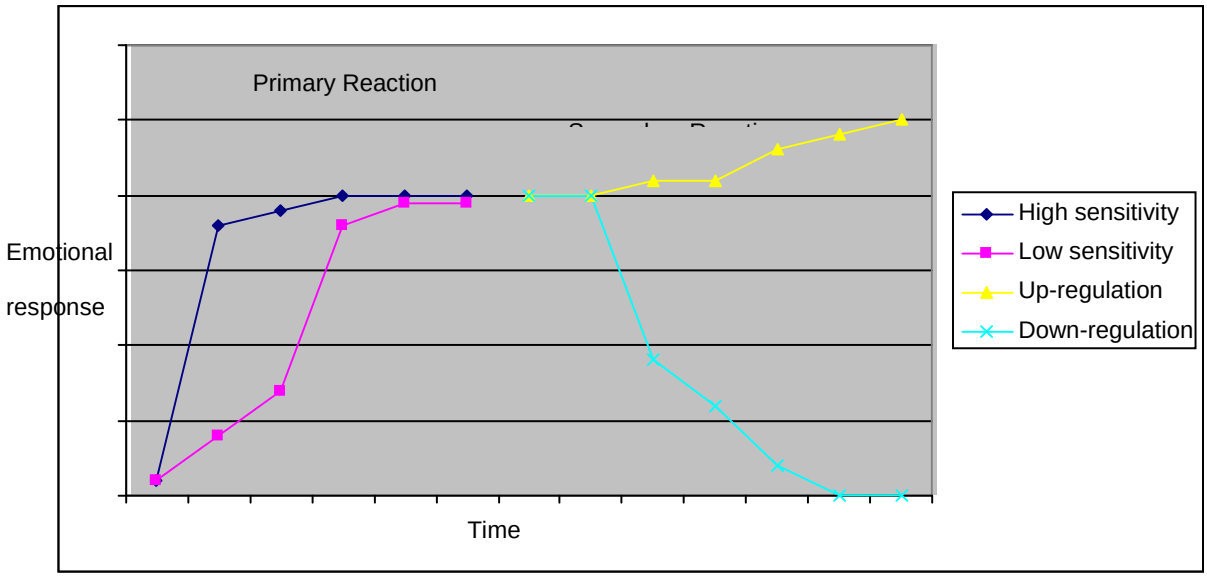

Figure 3. Model of emotional sensitivity versus emotional regulation (Koole, 2009).

emotion regulation strategies in regard to these systems and functions (see Table 1). Need-oriented emotion regulation refers to individuals' needs to experience low levels of negative and high levels of positive emotion. Goal-oriented emotion regulation is driven by a single verbally describable goal, standard, or job that could be motivated by people's belief or emotionally charged information. Person-oriented emotion regulation sustains the truthfulness of individuals' personality systems, which include their desires, objectives, intention, and other personal-factors. The targeted emotion regulation strategies in Table 1 have been empirically studied and have been discussed in the literature.

It should be noted that unlike the aforementioned theorists' emotion regulation strategies, Koole (2009) does not formally include environmental factors as a part of his categorization of emotion regulation strategies, (see Table 1) and does not include the

Table 1

Categorization of Emotion Regulation Strategies (Koole, 2009)

Emotion generating system	Psychological function		
	Need-oriented	Goal-oriented	Person-oriented
Attention	Thinking pleasurable or relaxing thoughts; Attentional avoidance	Effortful distraction; thought suppression	Attentional counter-regulation, Meditation Mindfulness training
Knowledge	Cognitive dissonance reduction Motivated reasoning Self-defense	Cognitive reappraisal	Expressive writing, Specification of emotional experience; Activating stored networks of emotion knowledge
Body	Stress-induced eating Stress-induced affiliation	Expressive suppression Response exaggeration Venting	Cotrolled breathing Progress muscle relaxation

manipulation of environment. This is additional evidence of how different theorists view emotion regulation.

Emotion Regulation and Psychopathology:

Common Diagnostic Factors

A large number of investigators (e.g., Koole, 2009; Kring & Bachorowski, 1999) indicated that individuals who have long-term emotion regulation problems are at high risk for serious impairment of their psychological functioning. The association between emotion regulation/dysregulation and psychiatric disorders has been investigated by

numerous researchers (Gross, 2007). The present author has determined that within the DSM-IV (American Psychiatric Association, 1994; APA) over half of nonsubstance related Axis I disorders and most of the personality disorders imply some deficits in emotion regulation as a part of their diagnostic criteria. For example, the diagnostic criteria of a major depressive disorder includes several emotion management issues linked to depressed mood, and feelings of worthlessness or inappropriate guilt. The diagnostic criteria for generalized anxiety disorder infer emotioni regulation problems in patients' experience of excessive anxiety and worry and difficulty controlling their worry.

By way of example, according to DSM-IV (APA, 1994), affectivity is one of the general diagnostic criteria for personality disorders. A pattern of difficult affectivity negatively influences an individual's internal experience as well as behavior. The criteria for Borderline Personality Disorder in DSM-IV (APA, 1994), includes affective instability due to a marked reactivity of mood (e.g., intense episodic dysphoria, irritability, or anxiety usually lasting a few hours and only rarely more than a few days), and chronic feelings of emptiness.

In contemporary studies, researchers focus on the association between particular emotion regulation issues and aspects of psychological functioning. Within studies, however, the relative importance and possible interrelationships between these issues and psychopathology is not typically studied by most researchers. For example, suppression and avoidance, in a variety of forms, have been implicated in psychopathology. Both are categorized as maladaptive emotion regulation strategies (Aldao, Nolen-Hoeksema, & Schweizer, 2010). These authors' meta-analysis suggested, however, that suppression is

related to emotions and thoughts; avoidance is linked to human behavior. Due to a lack of consensus of definition of emotion regulation, they found that these strategies are often measured inconsistently. Such variability in measuring constructs affects the variability of effect sizes reported across studies and can create inconsistency and error in summarizing overall effects and meta-correlations

Specifically, Aldao and colleagues' (2010) meta-analysis investigated the associations between four selected psychopathologies: (a) anxiety, (b)depression, (c) eating disorders, (d) substance-related disorders, and six widely studied emotion regulation strategies: (a) acceptance, (b) avoidance, (c) problem-solving, (d) reappraisal, (e) rumination, and (f) suppression.

Reappraisal, problem solving, and acceptance are emotion regulation strategies that have often been considered to be beneficial, or protective against psychopathology. Relatedly, rumination, suppression (thought suppression and expressive suppression), and avoidance, (behavioral avoidance and experiential avoidance) have been consistently determined to be counter-productive, or risk factors for psychopathology.

Aldao, Nolen-Hoeksema, and Schweizer's Meta-Analyis

In their meta-analysis literature review, Aldao and colleagues (2010) conducted a meta-analysis that sought to address the question of whether particular emotion regulation strategies had empirical support as remedies for particular forms of psychopathology. For instance, they remind readers that as an emotion regulation strategy, accepting strong, negative emotions non-judgmentally is increasingly

recognized as an important aspect of many therapies. Mindfulness-based therapy for example, addresses importance of patients' taking a nonjudgmental approach to personal experience, as in depression (Segal, Williams, & Teasdale, 2002), anxiety (Roemer, Orsillo, & Salters-Pedneault, 2008), eating disorders (Kristeller, Baer, & Quillian-Wolever, 2006), and borderline personality disorder (Linehan, 1993)

Aldao and colleagues (2010) also noted that problem solving as an emotion regulation strategy involves automatically engaging in plans/actions designed to change a circumstance, in the face of strong, negative emotions Problem solving is also defined in regard to specific actions and skills directed at solving problems (e.g., planning an itinerary, brainstorming a new improvement). Poor problem solving skills may lead to depression (D'Zurilla, Chang, Nottingham, & Faccinni, 1998).

Furthermore, Aldao and colleagues (2010) defined reappraisal as the emotion regulation strategy of generating a positive interpretation for a potentially stressful situation as a way of minimizing strong negative or distressful effect. According to several models (Beck, 1976; Clark, 1988; Salkovskis, 1998), maladaptive or ineffective reappraisal processes are core contributors to depression and anxiety. Cognitive-behavioral therapies for depression and anxiety focus on teaching reappraisal skills (Beck, Rush, Shaw, & Emery, 1979).

Aldao and colleagues (2010) elected to also focus on rumination, which is generally considered to be a dysfunctional emotion regulation approach. Rumination typically occurs when an individual engages in highly repetitive, mental replays of events, or mental searches for nonexistent "solutions" to problems that evoke strong

emotions despite possible negative consequences. Although rumination is one of strategies that individuals often engage in order to expand their knowledge or to solve problems; it is negatively associated with problem-solving activities because it can interfere with more adaptive problem-solving efforts. Individuals with emotional/behavioral problems tend to ruminate about problems they have no control over.

Suppression is another emotion regulation strategy that the aforementioned authors selected for the meta-analysis. Suppressing the expression of emotions helps to reduce individuals' aversive emotions or thoughts. Researchers indicated that suppression is effective at reducing the effects of negative emotional experiences in the short term, but becomes less effective at reducing individuals' emotional and physiological experiences over time (Gross, 1998a; Gross & Thompson, 2007). They also indicated that long-term emotional suppression can increase the risk of depression and anxiety (Wegner & Zanakos, 1994; Wenzlaff & Wegner, 2000).

Avoidance implies not engaging in behavior in order to avoid having negative emotional experiences. Unlike suppression, avoidance falls within a behavioral domain that is often linked to psychopathologies such as anxiety disorders (e.g. panic disorder, specific phobia) and substance dependence. Mowrer's (1947) two stage theory of fear response and looking for substances to avoid having withdrawal symptoms are good examples of avoidance.

Taken together, Aldao and colleagues' (2010) selection of emotion regulation issues for their meta-analysis was largely guided by the number of research studies

relating emotion regulation to available research, rather than strict theoretical considerations. Nonetheless, the emotion regulation strategies of acceptance, problem solving, and reappraisal were designated by the authors (Aldao et al., 2010) as "protective" emotion regulation strategies for development of psychopathology (Beck, 1976; Billings & Moos, 1981; Hayes, Strosahl, & Wilson,1999). Avoidance, rumination, and suppression were selected because of their negative effect to increase risk for developing psychopathologies (Mowrer 1947; Wenzlaff & Wegner, 2000). Overall, the meta- analysis included 114 studies conducted between 1985 and 2007, and it generated 241 effect sizes. It showed that avoidance, rumination, and suppression were most strongly associated with depression, based on effect sizes. Problem solving was inversely associated with depression and reappraisal showed a marginal, inverse relationship with depression. Surprisingly, acceptance was not associated with depression. The researchers also found that rumination (Butler & Nolen-Hoeksema, 1994; Hong, 2007), avoidance (Blalock & Joiner, 2000), and suppression (Beavers & Meyer, 2004) predict the increased of depressive symptoms over time. Consistent with cognitive-behavioral theory, problem solving predicts changes in depressive symptoms over time (Nezu & Ronan, 1998; Priester & Clum, 1993). Furthermore, problem solving was not associated with depressive symptoms over time among adolescent populations (Gerard & Buehler, 2004). The author concluded that problems solving and reappraisal as emotion regulation strategies appear to be protective factors for preventing symptoms of depression. Rumination, avoidance, and suppression are nonprotective factors which may contribute

to depression. As was noted previously, unexpectedly, acceptance was not associated with depression.

In summary, studies of the relationships between emotion regulation strategies and psychopathology tend to focused on one particular measure of emotion regulation and one particular disorder. It is noteworthy that many of the emotion regulation constructs measured in the aforementioned meta-analysis have long histories in other literature e.g., rumination is a psychoanalytic concept, that is, a psychological defense mechanism individuals with high neuroticism "overuse" when faced with the threat of overwhelming anxiety. The concept of acceptance has a very long history, particularly in the humanistic/existential literature on personality and psychopathology. Thus, many emotion regulation problems and coping strategies appear to have been drawn from other diverse bodies of theory and research. It appears that an increasing point of emphasis in the emotion regulation field is determining *the function and outcome* of using particular emotion regulation strategies, and in more clearly defining deficits in emotion regulation (e.g., alexithymia). It is clear from the diverse conceptualizations and measures of emotion regulation reflect the fact that many experts construe this concept somewhat differently. Additional studies of the association between psychopathology and emotion regulation, using multiple measures of the concept are needed to help refine the construct.

Lack of Consensus in Measuring Emotion Regulation

The summaries of emotion regulation definitions, models, and descriptions of its association with various disorders discussed to this point highlight the diverse

conceptualizations of this construct. Despite a lack of consensus regarding a "gold standard" model of emotion regulation or a clear definition, researchers have nonetheless sought to develop various self-report measures of emotion regulation. These measures appear to emphasize some, though not all of the aspects of any of the aforementioned models. Each measure assesses something a little different from the next.

An EBSCO electronic database search of measures of emotional regulation reveals that authors tend to emphasize three general domains in assessing emotion regulation. That is, the most widely used emotion regulation measures generally attempt to define emotion regulation: (a) *cognitive problems and/or adaptive strategies* that is, either problems in effective cognitive coping with emotions, as well as presumably effective cognitive approaches; (b) *behavioral regulation problems, or adaptive/maladaptive strategies;* or (c) the *general absence* of the ability to recognize, label or express strong, negative emotions. Three emotion regulation measures appear to be most widely used by investigators at this time, reflecting the three general "domains" of emotional regulation (i.e., the Difficulties in Emotion Regulation Scale; Gratz & Roemer, 2004), Cognitive Emotion Regulation Questionnaires; Garnefski et al., 2002, and the Twenty-Items Toronto Alexithymia Scale; Bagby et al., 1994). Given that emotion regulation-related constructs reflected in these three measures are differentially emphasized to varying degrees in each of the aforementioned models, it seems clear that additional research is needed to further refine models of emotion regulation and create more comprehensive and parsimonious measures.

Emotion Regulation and Treatment

Given that deficits in emotional regulation are commonly reflected in many DSM-IV (APA, 1994) diagnostic categories, it logically follows that effective intervention might usefully utilize emotion regulation in a course of therapy. The efficacy of emotion regulation training in the treatment of eating disorders, borderline personality disorder, anxiety, and depression is briefly discussed in this section to highlight the fact that emotion regulation difficulties are broadly recognized by experts in the field of psychotherapy.

Emotion regulation training is a relatively new approach to the treatment of various psychological problems compared to other traditional psychotherapies (e.g., psychodynamic therapy, cognitive therapy, and cognitive-behavioral therapy). Extended research has been conducted to investigate the outcome of aforementioned traditional psychotherapy treatment. They often find positive and promising results. However, some individuals do not benefit from traditional psychotherapy due to their individual differences. For example, 50% of clients with eating disorders improve their symptoms through cognitive-behavioral therapy. However, the other 50% of these individuals do not benefit from the therapy. They either show no progress with their eating disorders or have a relapse after the treatment. A clearer understanding of the relationship between particular emotion regulation problems and particular disorders could clarify an unknown area in the development of psychopathology. Such information could help clinicians and researchers to develop a more effective psychotherapy program and treat wider range of

people. Additional studies to investigate the association between emotion regulation and psychopathology are very much needed.

Emotion Regulation and the Treatment of Anxiety and Mood Disorders

Anxiety

Emotion dysregulation has drawn attention recently as a significant explanation of the development of psychopathology. Researchers discovered (Mennin, 2004; Mennin, Heimberg, Truck & Fresco, 2004; Salters-Pedneault, Rormer, Tull, Rucker, & Mennin, 2006; Suveg & Zeman, 2004), for instance, that individuals who lack cognitive emotion regulation ability are at high risk for anxiety disorders.

The previous study (Novick-Kline, Turk, Mennin, Hoyt, & Gallaher, 2004) discovered that individuals with generalized anxiety disorders have significantly greater abilities in the domain of emotional awareness. The researchers proposed that an individual with generalized anxiety disorders may experience their emotions with higher intensity resulting in larger negative emotional reactions, and an increase in anxiety.

The Mennin research study also indicated that differences in individual emotion regulation abilities influence development of worry and avoidance (Mennin et al., 2005). They suggested that individual experiencing general anxiety disorder has difficulty managing their emotions. They tend to experience emotions with higher intensity, have difficulty accepting their emotions and have greater negative emotional reaction.

Suveg and Zeman (2004) explored the relationship between children's emotion regulation and development of anxiety disorders. This study concluded that children with anxiety disorders have difficulty dealing with worries, sadness, and anger. The researcher also suggested that their limited skills in managing intense emotions as well as a lack of confidence in managing such emotions are possible factors for developing anxiety disorders.

Previous studies indicated that emotion regulation training produced positive treatment outcomes for both adults and children (Mennin, 2004; Suveg & Zeman, 2004). Emotion regulation therapy (ERT: Mennin, 2004) consists of two domains: (a) cognitive behavioral treatment including self-monitoring, relaxation exercises, belief reframing, decision-making exercises; and (b) emotion focus interventions for emotion regulation deficits and emotional avoidance. In their treatment, for instance, emotion regulation training helped individuals control their anticipation of fear for future events and decreased their level of anxiety (Mennin, 2004). If emotion regulation training is effective for individuals with anxiety symptoms, then it should be further investigated as a treatment for individuals with depression, given the great overlap in general affective symptoms.

Acceptance and commitment therapy (ACT; Hayes et al., 1999) is an empirically supported treatment for a number of mental disorders, but may be most strongly documented for anxiety disorders. ACT includes six components that help increase individual psychological flexibility as well as reducing symptomology. These six care components are: (a) acceptance, (b) cognitive diffusion, (c) being present, (e) self as

context, (f) values, and (g) committed action. ACT emphasizes importance of emotion regulation in the section of acceptance and being present (mindfulness). With regard to emotion regulation, one aspect of ACT (acceptance) encourages individuals to experience feelings without judgment, or immediate engagement in one's typical reactions.

Mood Disorders

Major depressive disorder is one of the most common mental health disorders for which individuals seek out help from physicians and mental health professionals. In contemporary studies, three theoretical approaches: (a) biological theories, (b) cognitive-behavioral theories, and (c) interpersonal theories, have been used to explain the etiology of depression. Furthermore, these approaches are used to develop treatment for depression.

Biological theories of depression explained that a major cause is biochemical imbalances in brain. Research has proven that tricyclic chemicals help to improve depressive symptoms by increasing the amount of biogenic amines in synaptic clefts. These findings have come to be called the biogenic amine hypothesis, which holds that depression is associated with imbalances of the biogenic amines, particularly norepinephrine and serotonin (Fellous, 1999).

Cognitive-behavioral theories of depression suggest that maladaptive beliefs and problematic thinking patterns develop; emotion dysregulation is likely to increase (Beck et al., 1979). Reducing response-contingent positive reinforcement increased an individuals' depressed mood. Beck and his researchers have indicated that an individual

can engage in self-control processes including self-evaluation, and self-evaluation which may increase depressive symptoms.

Gross and Munoz (1995) proposed theoretical integrative approaches to the treatment of depression. They noted, “one way of integrating these theoretical approach is by conceptualizing major depressive disorders as involving a dysregulation of emotion is which the frequency, intensity, and duration of negative emotion, especially sadness, are increased, and those of positive emotions such as interest and enjoyment are decreased.”

In a major paper summarizing the association between emotional regulation treatment components and the treatment of mood disorders, Campbell-Sills and Barlow (2007) also suggested that emotion regulation difficulty has significant association with the *development and maintenance* of mood disorders. The researchers suggested that individuals who engage in maladaptive emotion regulation strategies increase their vulnerability to mood disorders. They summarized specific examples of each maladaptive emotion regulation strategy (see Table 2) using Gross’s Process Model of Emotion Regulation (2007).

Campbell-Sills and Barlow (2007) also suggested that in treatment, it is important to addresses these maladaptive emotion regulation strategies to facilitate recovery from one’s mood disorder. By way of example, they note that it is important to facilitate the process of “cognitive reappraisal” (leads to cognitive changes), “modifying emotional action tendency” and “preventing emotional avoidance’ in the therapy. Cognitive reappraisal has been identified as one of the most significant emotion regulation

Table 2

Maladaptive Emotion Regulation Strategies and Specific Examples (Campbell-Sills, & Barlow, 2007)

Maladaptive emotion regulation strategies		Specific examples
1.	Maladaptive situation selection	Situational avoidance, Social withdrawal
2.	Maladaptive situational modification	Safety Signals
3.	Maladaptive attentional development	Thought suppression, Distraction, Worry, Rumination
4.	Maladaptive cognitive changes	Rationalization
5.	Maladaptive response modulation	Substance use

Strategies in order to improve mood (Gross, 1998b, Gross & John, 2003). Campbell-Sills and Barlow (2007) suggested challenging individuals': (a) "overestimating the probability of negative events happening," and (b) "overestimating the consequences of that negative event if it did happen." Modifying emotional action tendencies addresses individual's ability to act his/her way with different (new) feelings. Preventing emotional avoidance is another emotion regulation strategy that improves symptoms of mood disorders. Campbell-Sills and Barlow (2007) indicated that it is effective to address both behavioral and cognitive avoidance in the treatment process. They also noted that preventing emotional avoidance helps to reduce emotional driven behaviors. Individuals

who practice “preventing emotional avoidance” feel an improved sense of control of their emotions and are more able to stabilize their moods.

In summary, mood disorders can be conceptualized as ineffective or maladaptive attempts to regulate undesirable emotions. They have been variously construed as involving the ineffective use of situation selection, attention deployment, cognitive changes and response modulation to regulate emotion. Also, mood disorders have been characterized as involving avoidance of emotion and among some patients a general deficit in emotion regulation coping strategies. Most of the strategies purportedly utilized by depressed persons can be adaptive in certain situations; however, patients often display an over reliance and maladaptive use of strategies, which presumably perpetuates symptoms and disrupts functioning.

Gender Differences in Mood Disorders and Possible Implications for Emotional Regulation Differences

In the previous study (Holen-Hoeksema, Larson, & Grayson, 1999; Kornstein & Sloan, 2006; Martin & Dahlen, 2005; McBride & Bagby, 2006; Sophie & Robinson, 2007) controversial discussions were summarized regarding how gender influences relates to emotion regulation strategies and mood disorders. Little is known about whether associations between emotion regulation and gender *generally* exist; better verification of whether men and women tend to regulate strong negative emotions differently has likely implications for refining diagnostic criteria for various mental disorders. That is, some symptoms and accessory problems associated with, and relating

to emotion regulation may need refinement in classification systems (DSM), should pronounced gender differences in emotion regulation generally exist. Furthermore, understanding whether gender differences do or do not exist in the domain of emotion regulation and psychopathology could have implications for developing better treatments. That is, therapists may need to generally attain skill in remedying certain emotion regulation problems within particular disorders for women with particular disorders, versus men.

Depression and Gender: Susceptibility to Depression

Numerous researchers (Holen-Hoeksema et al., 1999; Kornstein & Sloan, 2006; McBride & Bagby, 2006; Sophie & Robinson, 2007) have studied the prevalence rate of depression and noted worldwide gender differences. Hyde, Mezulis, and Abramson (2008) discovered that the prevalence rate of depression among adult women is twice as high as adult men. Previous research has indicated that complex life demands linked to women's multiple life roles (e.g., working, providing a child-care as a primary care taker, doing domestic work at home) as well as difficulties in planning and taking action to make changes are possible factors contributing to women's depression. The difficulty among some women in assertively or appropriately expressing their emotions has been identified as one of many possible explanations for gender-related prevalence rate differences (Kornstein & Sloan, 2006, Nolen-Hoeksema, 1995; Sophie & Robinson, 2007).

In the contemporary study of emotion regulation, some researchers have investigated the relationship between gender differences and the utilization of adaptive/maladaptive emotional regulation strategies in the domain of depressive symptoms. Martin and Dahlen conducted a gender-controlled research study (2005) and reported that self-blame, blaming others, rumination and catastrophizing, were shown to cause or worsen depression. On the other hand, the action of "putting into perspective," refocusing on positives, on planning and positive reappraisal were shown to minimize or prevent risks of depression.

McBride and Bagby (2006) also investigated the correlation between women's vulnerability to depression and emotion regulation. The researchers found that women appeared to be more inclined to engage in rumination in response to a depressed or dysphoric mood than men are. Holen-Hoeksema et al. (1999) investigated reasons for gender differences in the properties of depression. They discovered that women have the tendency to experience chronic negative circumstances (or strain), obtain a low sense of mastery, and engage in ruminative cognitive coping style. Rumination is theorized to exacerbate the effects of chronic strain on depression. Chronic strain and rumination are reciprocal over time. Low mastery also contributes to more rumination. They concluded that rumination contributes to depressive symptoms; more rumination and less sense of mastery over time.

Among adolescents, girls tend to deal with depression by using emotion-focused and ruminative coping style, according to Li, DiGiuseppe, and Froh (2004). These researchers also found that boys tend to use problems-focus and distractive coping style

to manage their depression. Dyson and Renk (2006) reported that femininity and masculinity are predictive of coping strategies as well as severity of presenting depressive symptoms: (a) female freshman students are more vulnerable to depression due to their emotion focused coping strategies, and (b) male freshman students are less vulnerable, possibly due to their problems-focused coping strategies. Emotion-focused coping include rumination, acceptance, and distraction, and problems-focused coping strategies include active coping, planning, seeking out support, suppression, and restraint

It is interesting to note, however, evidence by some researchers that a relationship between emotion regulation and gender has not been consistently reported by others. Martin and Dahlen (2005) found that there are significant gender differences in use of blaming others, rumination, catastrophizing, positive refocus, refocus on planning, and positive reappraisal. Women use all of the aforementioned strategies except blaming others; however, contrary to the findings of some researchers, Martin and Dahlen (2005) found that men used the self-blame strategy more often than women. Thus, such inconsistent results suggest that emotion regulation strategies deserve additional attention from researchers. Further research needs to be conducted to uncover whether consistent interactions exist between gender and emotion regulations strategies as a function of severity of emotional/behavioral problems, such as depression.

In summary, the aforementioned studies examine possible gender differences using single measures of emotion regulation domains. Most studies have not been replicated sufficiently to date and have utilized small samples, usually fewer than 200 subjects. Additional studies are needed that examine a broader range of emotion

constructs (i.e., multiple measures) and substantial samples, so as to provide stronger external validity.

Rationale and Research Questions

Depression is one of most common mental health disorders for which individuals seek out treatment from their primary physicians or mental health providers. The research has indicated that the traditional treatment methods (e.g., cognitive-behavioral therapy, interpersonal therapy, psychodynamic therapy, and psychopharmacology) have been effective in treating depression. However, even these well studied treatment methods are not effective for all individuals who suffer from depression. According to DSM-IV (APA, 1994), one of the two, core criteria for major depression is depressed mood (i.e., feeling depressed most of the day, nearly every day for two weeks or more). However, additional clarification of the types of emotion regulation problems in depression is needed. The present study sought to contribute to the growing body of research on emotion regulation problems, and its relation to severity of depression. Findings from the present study were deemed to have possible implications for the development of gender-specific emotional regulation training approaches, maximizing the effectiveness for treatments for depression.

The following research questions guided the present study.

Research Objective #1: While past research has hinted that gender differences in emotion regulation strategies exist, a broad, comprehensive examination of the possible association between depression symptoms, gender and emotion regulation is

needed. The first research goal was to *specify in greater breadth and detail the nature of emotion regulation problems and coping strategies and their relation to the severity of depression symptoms*. Relatedly, it was speculated that *gender might interact with specific emotion regulation problems and/or coping strategies to predict the number and severity of depressive symptoms in a large college student sample*

Research Objective #2: Research objective #2 addresses two questions: (a) Given the fact that the most widely-used emotion regulation measures construe emotion regulation quite differently (e.g., emotional, cognitive problems and strategies, and fundamental deficits in recognition of emotions), is it possible to identify any central, or "core" factors when all of the items of these inventories are considered together?; (b) Relatedly, would a set of consolidated "factors" or constructs derived from the three most widely used self report inventories usefully differentiate individuals formally diagnosed with a DSM mood disorder involving depression, from individuals who are not depressed. Self-report measures of depression are not considered as valid indicators of a clinical syndrome of depression, that is, they are not analogous to a formal DSM-IV diagnosis of depressive episodes. Therefore, emotion regulation should be examined not only in association with a self-report inventory involving the number and severity of depression-related problems, but in terms of a "gold standard" diagnosis of mood disorder (APA, 1994).

CHAPTER III

METHOD

Overview

The procedures of the present study began with a broad screening of a large sample of undergraduate students (1,063), all of whom completed a screening packet containing three emotion regulation inventories and a depression inventory. This large sample participated in addressing the first research objective i.e., the specification of a broad range of emotion regulation problems and coping strategies, and their relation to gender and depression symptom severity. Next, a subgroup of individuals from this screening sample was invited to complete a structured clinical interview for DSM, which primarily focused on mood disorders. A principal components analysis of the three emotion regulation inventories was conducted, and the degree to which the new, consolidated "factors" differentiated diagnosed (depressed) versus nondepressed persons was evaluated utilizing logistic regression.

Participants

The participants (see Table 3) in this study were recruited through eight undergraduate classes in Psychology and Nutrition, Dietetic, and Food Science classes, across five consecutive semester periods at Utah State University. A total of 1063 undergraduate and graduate students participated in the initial screening for this investigation (male 410, 38.6% and female 644, 60.6%) with an average age of 20.7,

Table 3

Demographic Distribution

			Gender specific			
			Male		Female	
	(*n* =)	(%)	(*n* =)	(%)	Variables	Overall sample
Gender	1063	100	410	38.6	644	60
Age (*SD*)	20.7	4.55				
Ethnicity						
Caucasian	978	92.0	377	91.7	598	92.9
African American	5	.5	3	.7	2	.3
Native American	3	.3	2	.5	1	.2
Hispanic	25	2.4	9	2.2	16	2.5
Asian/Pacific Islander	24	2.3	10	2.4	14	2.2
Other	16	1.5	7	1.7	9	1.4
Education						
Freshman	551	51.8	191	46.5	359	55.7
Sophomore	282	26.5	125	30.4	155	24.1
Junior	150	14.1	70	17.0	79	12.3
Senior	72	6.7	22	5.4	49	7.6
Graduate	2	.2	1	.2	1	.2
Religion						
Catholic	23	2.2	9	2.2	14	2.2
Protestant	17	1.6	7	1.7	10	1.6
LDS	911	85.7	342	83.2	567	88.0
Buddhist	6	.6	3	.7	3	.5
Islanic	2	.2	2	.5	0	0
Jewish	1	.1	0	0	1	.2
Other	89	8.4	45	10.9	44	6.8
Missing value	11	1.0				
Relationship						
Single	806	75.8	304	72.7	502	77.8
Married	128	12.0	56	13.4	72	11.2
Committed relationship/partner	108	10.2	49	11.7	59	9.1
Divorced/separated	15	1.4	3	.7	12	1.9

SD = 4.55 (see Table 3). The sample was mainly Caucasian (92%). Half of the participants were freshman (51.8%) and 7.8% of the subjects were single. The participants predominantly affiliated with the Church of Jesus Christ of Latter-day Saints (85.7%). For their participation, the incentives, extra credit, were given to all participants.

Instruments

The present study used three self-report inventories as the independent variables (emotion regulation questionnaires), and two measures of depression symptoms (Beck Depression Inventory-II) self-report questionnaire and structured clinical interview (SCID) as dependent variables. As has been noted, the second research objective in this study involved the consolidation of the three emotion regulation measures through an item-level principal components analysis and an examination of the association between these new “factors” and diagnostic clinical status (SCID Interviews) using logistic regression.

Self-report Questionnaires

The Beck Depression Inventory-II (BDI-II: Beck, Steer, & Brown, 1996) is the most widely-used self-report measure assessing the severity of depressive symptoms. The BDI-II was originally developed for use with clinical populations; however, it has been used as a screening instrument to detect depression symptoms among adults and adolescents in thousands of studies (Beck et al., 1996). The BDI-II contains 21 items, each rated by respondents on a four-point (0-3) Likert scale. Total raw scores can range

from 63 to 0 and reflect severity of depressive symptoms. More specifically, scores 0 to 13 indicated no-to-minimal depression (denoted as “Category I” by Beck); 14-19 mild depression (denoted as “Category II”; 20 to 28 moderate depression (denoted as “Category III”); and above 28 represents severe depression symptoms (denoted as Category IV). The BDI-II has high internal consistency ($\alpha = 0.93$) in clinical and non-clinical populations. The test-retest reliability ranges from 0.91 to 0.93 (Beck et al., 1996).

Three emotion regulation measures were selected to conduct this study. The reasons for including these three measures to assess individuals’ emotion regulation problems are; (a) to assess multidimensional characteristics of emotion regulation strategies (e.g., Alexithymia, emotion regulation strategies related to cognition and behavior); (b) to increase the validity of this study by covering the wide range of definitions of emotion regulation by using multiple measures; and (c) to improve upon the many previous studies that had limited generalizability because of using only one measure to assess an individual’s emotion regulation abilities. Initially, only the Difficulties in Emotion Regulation Scales (DERS: Gratz & Roemer, 2004) was selected to conduct this study. After consulting with the dissertation committee, two additional measures were included in this study to assess participants’ emotion regulation abilities: the Cognitive Emotion Regulation Questionnaires (CERQ: Garnefski et al., 2002) and The Toronto Alexithymia Scale (TAS-20: Bagby et al., 1994). A journal database search was conducted (e.g., PsycINFO, Psychology: A SAGE Full-Text Collection, PsycARTICLES, and MEDLINE) to identify the most widely used and referenced

emotion regulation measures using relevant key words (emotion regulation, emotional coping, and affect regulation).

The Difficulties in Emotional Regulation Scale (DERS: Gratz & Roemer, 2004) is a multidimensional assessment of emotion regulation and dysregulation developed by Gratz and colleagues (2004). It consists of 36 self-report items that investigate individuals' complaints about emotional regulation problems. The DERS includes six subscales (see Appendix B). The first scale is *Non-acceptance of Emotional Response Scale*. However, a qualitative assessment of the items of this scale by the present author and her colleagues suggest that a better label associated with the likely face validity of the subscale items is *Tendency to Engage in Self-Derogation When Emotionally Upset*---which is considered by most emotion regulation experts to be a generally maladaptive response to aversive emotion. The second scale reflects the problem of the *Failure to Engage in Goal-Directed Behavior* when markedly upset. Items on this scale suggest that the person avows that their constructive thinking and action is interrupted or blocked when they are upset. The third subscale involves *Impulse Control Difficulty*. Objectively, this must be considered to be an indirect behavioral correlate of emotional regulation and executive function problems relating to adaptive inhibition. The fourth scale reflects *a Lack of Emotional Awareness When Upset.* The fifth scale involves the problem of having limited *access to Emotion Regulation Strategies* when one is upset. The sixth scale relates to *Lack of Emotional Clarity* when upset. It should be pointed out that the original authors' research on the construction of the DERS revealed that the first four

subscales of this inventory accounted for most of the variance in overall scores on this inventory.

Respondents on this inventory report their self-perceptions regarding each item by selecting an option from a 5-point Likert scale, which ranges from “almost never” to “almost always.” Total scores range from 36 to 180, with highest scores on the DERS indicating more severe lack of emotion regulation abilities. The DERS has high internal consistency ($\alpha = 0.93$), good test-retest reliability ($\rho_I = 0.88$, $p < 0.01$), and adequate construct and predictive validity.

The Cognitive Emotion Regulation Questionnaire (CERQ: Garnefski et al., 2002) is the multidimensional, is self-report questionnaire that designed to assess individuals’ *cognitive coping processes in affect regulation*. The questionnaire consists of 36 items and nine subscales. Each subscale consists of four items. The subscales appear to be roughly divided among cognitive strategies that generally considered to be adaptive, versus maladaptive: (a) self-blame, (b) acceptance, (c) rumination, (d) positive refocusing, (e) refocusing on planning, (f) positive reappraisal, (g) putting into perspective, (h) catastrophizing, and (i) other-blame. Respondents report their self-perceptions regarding each item from a 5-point likert scale: 1 is *never* to 5 is *(almost) always*. Total scores range from 36 to 180. The CERQ has high internal consistency (range from $\alpha = 0.68$ to $\alpha = .86$), good test-retest correlation range from .48 (refocusing on planning) to .65 (other-blame).

The Toronto Alexithymia Scale (TAS-20: Bagby et al., 1994) is a self-report measure that consists of 20 items (5-point Likert Scale) with three subscales that assess a

general lack of emotion regulation coping strategies. The three subscales reflect the general, theoretical construct of alexithymia. The three subscales relevant to emotion regulation are: (a) difficulty identifying feelings and distinguishing them from the bodily sensations of emotion, (b) difficulty describing emotions to others, and (c) an externally orientated style of thinking. The TAS-20 has good internal consistency (Cronbach's alpha = 0.81) as well as test-retest reliability ($r = .077$; $p < .01$) over 3-week period, and numerous studies suggest high concurrent validity with other indicators of the constructs it measures within clinical populations, such as eating disorders and borderline personality disorder.

Structured Clinical Interview for DSM-IV

The Structured Clinical Interview for DSM-IV Axis I Disorders (First, Spitzer, Gibbon, & Williams, 1997) created a structured diagnostic interview to assess the psychological functioning of adults that is based on the DSM-IV (APA, 1994). A participant is identified with a disorder when the participant meets the specified number of symptoms for a particular disorder. The SCID is frequently used for clinical research (Martin, Pollock, & Bukstein, 2000). Clear evidence of adequate validity, and good test-retest and inter-rater reliability on the SCID has been noted by numerous clinical studies. Previous studies, for instance, demonstrated Kappa values ranging from 0.72 to 1 in the different diagnostic categories (First & Gibbon, 2004).

Procedures

Initial Screening of Participants

Data were collected at Utah State University over a period of five semesters. Trained research assistants visited undergraduate classes and provided instructions on completing the paper and pencil screening materials. The screening packets contained consent forms (see Appendix C), instructions (see Appendix D), demographic information sheet (see Appendix E), the Beck Depression Inventory-II (BDI-II), the Cognitive Emotion Regulation Questionnaire (CERQ), the Difficulty in Emotion regulation scale (DERS), and the 20-item Toronto Alexithymia Scale (TAS-20). Approximately 45 minutes were required to complete the screeing packet. Students completed the screening packet at home at the beginning of an academic semester and packets were collected one week later by research assistants. To prepare students for the possibility that they would also complete the structured clinical interviews in the future (SCID), they were also told that an opportunity might be available to them to participate further in a clinical interview investigation in the near future.

A random sample of individuals representing the distribution of persons (who scored in Categories I and II of BDI) was invited to participate to the Structured Clinical Interview for DSM-IV Axis I Disorders, (SCID-I). Based on the distribution of scores, more participants were interviewed for Category I, because the screening procedures served not only the present study, but an unrelated study dealing with other mental disorder issues and emotion regulation. The low base rate for moderate and more severe mood disorders in the sample justified the decision to invite all of the participants who

scored in Categories III and IV of the BDI to participate in the structured clinical interviews.

The SCID interview was conducted to further assess the nature and severity of mood disorder symptomology. The SCID was administered over the phone by trained research assistants. Approximately 15 to 25 minutes was required to complete each interview. Participants who reported symptoms of clnical depression (e.g., sad mood, anhedonia, and suicidal thought) were referred to campus resources such as Counseling and Psychological Services and Student Health and Wellness Center at Utah State University. In addition, the information of this author and faculty advisor was given to the participants to provide more information about referral and campus resources.

Exclusion criteria for the present study, based on SCID interviews were: (a) more than one past episode of major depression, (b) presence of Bipolar Disorder or mood disorder due to substance abuse, (c) mood problems primarily associated with adjustment disorder, or (d) presence of a mood disorder symptom secondary to another major DSM disorder. The first exclusion criterion involving no more than one past episode of major depression was selected because patients with many past episodes are known to include details about worst symptoms and experiences of former episodes in their discussion of their current episode. The second criterion involving substance abuse was used because mood changes in substance abuse are often caused by drug abuse effects, for example, withdrawal symptoms, rather than a fundamental and singular syndrome of depression. The remaining exclusion criteria are self-explanatory.

Initially, this researcher hoped to create multiple groups for mood disorders, that is, *Major Depressive Episode, Mood Disorder NOS (depression), Dysthimic Disorder*.. However, the sample size of each such subgroup was too small to allow for statistical analysis.

Ensuring Interviewer and InterviewRating Consistency of SCID Interviews

The research interviewers in the present study attended three training sessions lasting approximately three hours to familiarize them with the SCID (e.g., the "do's" and "don'ts") regarding standardized interview skills, procedures for electronic recording of their interviews, and ethics issues regarding confidentiality and human subjects issues. The training sessions were provided by the senior investigator and attended by the faculty supervisor who served as a facilitator. The training sessions included a primary presentation designed to help interviewers learn the relationship between the SCID interview questions they would pose to participants and DSM-IV diagnostic criteria for Axis I. The trainees also listened to a series of recorded interviews and practiced identifying interviewer errors. Each trainee also completed 3-4 pilot interviews which were reviewed by the faculty advisor and research assistants. The primary training goals involved helping each interviewer ask enough open-ended and closed ended question, and solicit sufficient detail when participants avowed a symptom, so that a second, independent group of raters (who later listened to recordings of the interviews) could simply review the actual interview content and render diagnostic judgments based on DSM-IV criteria; the latter judges could also replay recordings if necessary. It should be

noted that the SCID interviewers themselves did not have to render any diagnostic decisions, but did have to elicit clear, operationalized examples if subjects avowed a symptom.

The SCID interviews were audio taped strictly for data coding purposes and were evaluated by a second team of trained interview coders. The interview coders had themselves each conducted at least 15 SCID interviews and after passing subjective, quality standards of the faculty sponsor, were trained to code the research interviews for the presence and absence of DSM-IV symptoms. Six raters were trained and participated. One interview rater's ratings were eventually rejected by the research director because of occasional errors/inconsistencies. The interviews assigned to this rater were re-rated by a member of the interview coding team. Furthermore, the interviews of all persons who originally scored on the BDI-II in Category III or IV were coded by at least two raters; any discrepancies in their coding of SCID items was resolved by having the faculty sponsor of the study relisten to the interview and provide a coding decision.

Assignment of SCID Interviewees to DSM Mood Disorder Diagnosis Versus No-diagnosis Groups

Interviewees were assigned to one of two depression diagnosis categories based on the outcome of their SCID interviews. Persons in the mood disorder diagnostic group met DSM-IV diagnostic criteria for either Major Depressive Episode or a subclinical form of depression that qualified for DSM-IV Mood Disorder NOS. As has been noted, persons experiencing hypomanic or manic episodes were not considered in the present

study. More specifically, to be placed in the Mood Disorder Diagnosis group, participants had to first meet either the key depressed mood criterion or the main anhedonia criterion of DSM-IV. If they met one of these criteria the other one was not subsequently assessed as one of group of the "additional" criteria required in DSM If they met both criteria, the participant was rated as meeting the key depressed mood criterion, plus one additional criteria. Next, diagnostic criteria were added to the required total criteria count whenever a participant avowed one of the eight remaining major depression criteria. If a participant's total criteria count would be "5," the diagnosis of Mood Disorder NOS was assigned. A total count of six criteria or above was assigned the diagnosis of MDE, consistent with DSM-IV. Therefore, persons meeting either diagnosis were placed in the DSM Mood Disorder group.

It should be noted that interviewees were not asked further about any possible depression symptoms if they did not initially meet either the key depressed mood or anhedonia criteria for major depressive episode. In such cases, the interview covering depression symptomology was terminated. These individuals were automatically placed in the "no mood disorder diagnosis" group. The assignment of interviewees to one of these two groups (mood disorder diagnosis, no diagnosis) provided the basis for a logistic regression (i.e., using emotion regulation factors derived from a principal components analysis of the three emotion regulation measures as the independent variables).

Assessing Emotion Regulation Among Persons Meeting, Versus Not Meeting DSM-IV Criteria for Mood Disorder Based on SCID Interview

As was noted in the Overview of this section, a principal components analysis of the three emotion regulation inventories (TAS-20, DERS, and CERQ) was conducted by the present author. A set of new, consolidated emotion regulation " factors" was examined to assess the extent to which they differentiated participants who did, and did not meet DSM-IV criteria for a Mood Disorder entailing depression symptoms based on SCID interviews. As has been noted above, identification of persons who do, versus do not meet these DSM criteria were based on interviews of persons who had initially scored in symptom severity categories I-IV of the Beck Depression Inventory.

Data Analysis Procedures

Research Objective #1

A series of multiple regression analyses involving the independent variables of gender, and subscales of each emotion regulation inventories were conducted to assess their interaction in predicting severity of depression symptoms. The Beck Depression Inventory-II served as the dependent variable. Multiple regression was chosen for this data analysis because it examines the relationship between one dependent variable and one or more independent variables. In this study, multiple regression allowed the investigation of more than one predictor (17 subscales from three widely used inventories) that is, in accounting for variance in depression symptom scores.

The possibility of problems with muticollinearity was examined that is, insuring that two or more predictor variables (independent variables) are highly correlated. In addition, residual analysis was conducted to ensure that here is no heteroscedatisity was present. Residuals represent errors in estimation, that is, between the observed value and predicted value in a regression analysis.

Research Objective #2

(A) item-level principal components analysis designed to consolidate the three emotion regulation inventories. Principal components analysis allows researchers to reduce the number of items in a test into subgroups of intercorrelated items, called factors. This analysis allows to reduce number of observed variable and create a unobserved variable that capture "core emotion regulations strategies." cipal component analysis was applied for this analysis procedure to reduced 92 items to few numbers of factors.

(B) logistic regression analyses involving the SCID (presence/absence of major depression; presence/absence of other DSM mood disorder) and the independent variable that is, consolidated indices of emotion regulation (from principal components analysis). Logistic regression was chosen for this data analysis because the dependent variable of this specific analysis is binary. In this case, the two dependent variables are: (a) with clinical depression diagnosis, and (b) nonclinical depression diagnosis. Also, logistic regression is used to examine the probability of occurrence of these briary dependent variables by fitting the data to a logit function logistic curve. Thus, logistic regression is the appropriate data analysis procedure for this research objective.

CHAPTER IV

RESULTS

Research Objective #1: Relations of Three Emotion Regulation Inventory to Depression Symptom Severity

This section addressees the question of the relationship between emotion regulation and depression symptoms as measured by the BDI. Table 4 presents the descriptive statistics for the BDI-II and the three emotional regulation scales based on 1043 completed sets of inventories. In order to include maximize number of subjects in this study, listwise deletion of missing data was applied in the data analyses. Thus, the number of participants varied slightly across analyses, depending on the number of participants that completed every item on an the inventories used in a particular analysis. Table 4 also reports the official name of each subscale as well as the particular emotion regulation inventory the subscale belongs to. This table also includes and total mean and standard deviation values based on gender.

Table 5 shows the breakdown of the overall screening sample into each of the four Beck Depression Inventory severity categories, according to Beck (Beck et al., 1996). Table 6 presents a chi-squared analysis, indicating that no statistically significant association was found between gender and participants' placement in the four categories. Table 7 presents zero-order correlations between the Beck Depression Inventory-II (BDI-II : Beck et al., 1996) and each of the subscales of: (a) Toronto Alexithymia Scale (TAS-20: Bagby et al., 1994), (b) the Difficulty in Emotion Regulation Scale (DERS: Gratz &

Table 4

Descriptive Statistics for the Beck Depression Inventory and the Three Emotion Regulation Questionnaire Scales, by Gender

Measure	Acronym	Subscale	Overall n=	Overall Mean	Overall (*SD*)	Male *n*=	Male Mean	Male (SD)	Female *n*=	Female Mean	Female (*SD*)
I. Beck Depression Inventory -II											
	Beck T	BDI Total Score	1041	2.48	1.25	414	2.43	1.29	627	2.51	1.22
II. Toronto Alexithymia Scale (TAS-20)											
	TAIdent	Difficulty Identifying Feelings	1046	12.31	4.66	407	11.43	4.64	639	12.87	4.59
	TADesc	Difficulty Describing Feelings	1049	11.15	3.30	413	11.02	3.36	636	11.23	3.26
	TAExtThnk	Externally Oriented Thinking	1029	20.96	3.20	402	43.51	8.51	618	44.91	8.33
III. Cognitive Emotion Regulation Questionnaires											
	CERQTot	CERQ Total Score	1027	104.09	15.90	397	103.09	17.48	630	104.73	14.79
	CSBlame	Self-blame	1055	10.40	3.21	413	10.29	3.25	642	10.47	3.17
	CAccept	Acceptance	1052	12.83	3.21	411	12.48	3.33	641	13.06	3.11
	CRumin	Rumination	1053	11.57	3.35	413	11.01	3.30	640	11.94	3.33
	CRefocus	Positive Refocusing	1050	10.75	3.00	409	10.65	3.08	641	10.81	2.94
	CPlan	Refocus on Planning	1057	13.60	3.24	415	13.63	3.39	624	13.58	3.15
	CApprais	Positive reappraisal	1054	14.85	3.50	413	14.71	3.57	641	14.94	3.45
	CPerspec	Putting into Perspective	1055	13.82	3.27	415	13.50	3.37	640	14.02	3.19
	CCatas	Catastrophizing	1051	8.03	3.06	414	8.12	3.21	637	7.97	2.96
	COBlame	Other-blame	1049	8.14	2.75	411	8.36	2.89	638	8.00	2.66
IV. Difficulties with Emotional Regulation Questionnaire (DERQ)											
	DERSTot	DERS Total Score	1023	80.10	20.01	403	80.74	20.18	620	79.68	19.91
	DNaccept	Nonacceptance of Emotion Responses	1040	13.38	5.60	410	13.27	5.63	630	13.46	5.58
	DGlDir	Difficulties Engaging in Goal-Directed Behavior	1044	13.80	3.66	411	13.94	3.91	633	13.71	3.48
	DImpulse	Impulse Control Difficulties	1044	10.77	4.37	410	11.01	4.57	634	10.62	4.23
	DLEAwar	Lack of Emotion Awareness	1042	15.64	4.55	409	16.34	4.74	633	15.19	4.38
	DLEAcces	Limited Access to Emotion Regulation Strategies	1038	15.48	6.15	407	15.37	6.08	631	15.55	6.21
	DLEClrty	Lack of Emotion Clarity	1045	10.97	3.81	414	10.87	3.98	631	11.04	3.70

Table 5

Frequencies of Scores (Four BDI Severity Categories)

		Beck Depression Inventory Severity Group			
	Total	1(0-13)	2 (14-19)	3(20-28)	4(29-63)
Gender					
Male	414	336	37	31	10
Female	627	509	65	34	19
Total	1041	845	102	65	29

Note. Group 1 (*T* = 0-12): minimal; Group 2 (*T* = 13-19): mild; Group 1 (*T* = 20-12): minimal; Group 1 (*T* = 0-12): minimal

Table 6

Chi-Square Tests: Association Between BDI Categories 1-4 and Gender

	Value	*df*	*P* value
Pearson Chi-square	2.562[a]	3	.464
Likelihood ratio	2.543	3	.468
Liner-by linear association	.036	1	.849
N of Valid Cases	1041		

Table 7

Correlation Matrix: Beck Depression Inventory II and All Subscales of the Three Emotion Regulation Inventories

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Beck T																		
2. DNaccept	.39																	
3. DGLDir	.4;;0	.51																
4. DLEAwar	.17	.04	-.15															
5. DLEAcces	.54	.60	.59	.16														
6. DLEClrty	.44	.42	.29	.45	.53													
7. CSBlame	.38	.48	.40	-.08	.43	.24												
8. CAccept	.16	.22	.29	-.18	.17	.07	.43											
9. CRumin	.23	.33	.38	-.43	.31	.13	.49	.43										
10 CRefocus	-.13	.05	.02	-.20	-.10	-.06	.03	.16	.15									
11. CPlan	-.23	-.05	.04	-.50	-.24	-.32	.09	.24	.29	.47								
12. CApprais	-.26	-.11	-.04	-.44	-.36	-.30	-.02	.23	.19	.41	.73							
13. CPerspec	-.19	-.00	.02	-.33	-.25	-.18	.01	.24	.18	.36	.55	.67						
14. CCatas	.39	.41	.45	.02	.58	.36	.46	.27	.41	.01	-.11	-21	-.17					
15. COBlame	.20	.21	.31	-.10	.30	.17	.23	.18	.26	.59	.01	-.08	-.01	.42				
16. TAIdet	.54	.49	.39	.17	.56	.68	.40	.21	.35	-.02	-.16	-.19	-.10	.42	.21			
17. TADesc	.38	.36	.24	.33	.37	.59	.30	.17	.14	-.03	-.18	-.19	-.13	.29	.20	.64		
18. TAExThnk	.06	.44	-.00	.27	.00	.17	-.01	.04	-.17	.10*	-.12	-.07	-.01	.04	.12	.13	.25	

Note: Correlations greater then .06 are statistically significant at .05 or less._The Beck Depression Inventory-II is from Beck, et al. (1996). The Difficulties in Emotion Regulation scale DERS is from Gratz, K. L., & Roemer, L. (2004); The Cognitive Emotion Regulations Questionnaires is from Garnefski et al. (2002), and the 20-item Toronto Alexithymia Scale-II is from Bagby, R. M., Parker et al. (1994).

& Roemer, 2004), and © the Cognitive Emotion Regulation Questionnaires (CERQ: Garnefski et al., 2002).

Table 8 presentes the frequency of screened participants who scored within the four BDI-II Categories. A total of 94 college students (29 males, 65 females) from the overall screening sample of 1041 students scored in the "depressed" range of the Beck depression inventory (i.e., Categories 3 and 4). This represents 9% of the overall screening sample. This 9% figure is very consistent with the estimated prevalence of diagnosable (DSM) major depression and mood disorder NOS reported in other studies of college students (which average around 10%). While all of the Category 3 and 4 participants were asked to participate in a SCID clinical interview 2-3 weeks later, only 64% agreed (*n* = 60).

To evaluate whether a particular combination of subscales from the three emotion regulation inventories related most strongly to the BDI, a series of multiple regression analyses was conducted. It was assumed that authors of these inventories intended to

Table 8

Frequency Count of Male and Female Participants Scoring in Each of Four BDI Categories

		Beck group categories				
Gender		1	2	3	4	Total
0	(Male)	336	37	31	9	413
1	(Feale)	509	65	34	20	628
	Total	845	102	65	29	1041

Note. This table shows the number of women (gender = 0) and men (gender = 1) who scored in categories 1-4 of the BDI.

develop subscales that reflected their particular conceptualization of emotion regulation (e.g., cognitive approaches to emotion regulation). Therefore, in each of three initial analyses (one analysis for each inventory) gender was entered first; then, the subscales of a particular inventory were entered (block entry) and finally, joint effects involving gender and the inventory subscales were tested. Subscales were eliminated in each of the three analyses if they did not increase the overall size of the multiple correlations of the respective analysis. That is, if a subscale did not account for significant, unique variance in the regression model (since all of the other subscales were entered into the model), it was eliminated.

Appendix F provides an example of one of the emotion regulation inventory (DERS) regression analysis procedures cited above and highlights why particular DERS subscales were retained for testing in the final, overall model. The "bolded" subscales in Appendix F show the subscales from DERS that were retained. However, immediately below (see Table 9 and Table 10) is a presentation of another one of the three regression analyses i.e., the Toronto Alexithymia Scale and its relation to BDI scores. This analysis not only shows that particular subscales contributed to a statistically significant level of variance accounted for in BDI scores, but also revealed an important interaction effect of one TAS subscale with gender.

In this latter analysis, involving the TAS, gender was entered first, and three subscales were entered second, followed by interaction terms. Table 9 shows main effects involving three TAS subscales and interaction between genders and TAS subscale, involving Inability to Described Feelings. The interaction shows that for males but not females, increasing inability to described feeling is related increasing BDI scores.

Table 9 provides the results of multiple regressions including *R* square (multiple correlation or coefficent of multiple determination), adjusted *R* square, and *R* square change. *R* square suggests the percent of the variance in the dependent variable that is explained by the one or more independent variables. Adjusted *R* square is the modified *R*-square value that takes into account the fact that it can become artificially when a large number of independent variable are used in a given analysis. *R* square change represents the changes in *R* square that occurs when a variable or block of variables are added to a model, due to the fact that the change is statistically significant, that is, different from zero.

A final (overall) multiple regression analysis was next conducted involving the subscales selected from initial analysis of each of the three inventories. It should be noted that most of the emotion regulation inventory subscale distributions were positively skewed and appropriate transformations (e.g., square-root) were conducted to normalize them. This assisted in helping affirm the assumption of multiple regression of multivariate normality. Also, Table 7 (mentioned previously) shows that no significant problems with multicollinearity are present in the data set, which is another assumption of multiple regression

All combinations of the subscales were tested with the goal of producing a parsimonious model that contained the fewest number of emotion regulation subscales, but which accounted for the greater amount of variance in BDI scores. The final model is presented in Tables 11, 12, and 13. Table 11 shows the simultaneous entry of the final emotion regulation subscales which formed a linear combination accounting for maximum variance in Beck Depression Inventory–II scores. This resulted in a

Table 9

Regression Model: Gender, TAS Subscales and Interaction (Predicts BDI-II Scores)

				Change statistics			Change statistic coefficient		
Model	*R*	*R* square	Adjusted *R* square	Std. error of the estimate	*R* -square change	*F* change	*df*1	df2	Sig. *F* change
(Constant)									
Gender	.04[a]	.00	.00	1.24	.00	1.39	1	1053	.24
Original subscales	.54□	.29	.29	1.05	.29	141.34	3	1050	.00
Interactions	.54□	.29	.29	1.05	.01	7.57	1	1049	.01

[a] Predictors: (Constant), Gender; [b] Predictors (Constant), gender, TADesc= Difficulty Describing Feelings, TAExThnk= Externally Oriented Thinking, TAident= Difficulty Identifying Feelings; c Predictor: (Constant), gender, TADesc= Difficulty Describing Feelings, TAExtink= Externally Oriented Thinking, TAident= Difficulty Identifying Feelings**,** GndrTADesc= Gender by Difficulty Describing Feelings.

Table 10

Coefficients

Model		Unstandardized coefficients B	Unstandardized coefficients Std. Error	Standardized coefficients Beta	*t*	Sig.	Correlations Zero-order	Correlations Partial	Correlations Part
1	(Constant)	2.42	.06		39.77	.00			
	Gender	.09	.08	.04	1.18	.24	.04	.04	.04
2	(Constant)	.77	.23		3.31	.00			
	Gender	-.11	.07	-.04	-1.58	.11	.04	- .05	-.04
	TADesc	.03	.01	.07	1.96	.05	.38	.05	.05
	TAIdent	.13	.01	.50	14.57	.00	.53	.41	.38
	TAexThink	-.01	.01	-.02	-.69	.49	.06	-.02	-.02
3	(Constant)	.42	.26		1.60	.11			
	Gender	.48	.23	.19	2.16	.03	.04	.07	.06
	TADesc	.06	.02	.15	3.30	.00	.53	.04	.03
	TAIdent	.01	.01	.05	1.69	.09	.16	.05	.04
	TAexThink	-.01	.01	-.02	-.71	.48	.06	-.22	-.02
	GndrTAdesc	-.05	.02	-.26	-2.75	.01	.04	-.09	-.07

Note. Dependent Variable: Beck T, Bolded subscales retain testing in final mode.

Table 11

Coefficients

	Unstandardized coefficients		Standardized coefficients			Correlations		
Model	B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part
(Constant)	.81	.19		4.4	.000			
DERAcess	.05	.01	.26	8.5	.000	.53	.25	.21
CSBlame	.06	.01	.15	5.4	.000	.38	.16	.13
CPlan	-.04	.01	-.11	-3.8	.000	-.23	-12	-.09
CRefocus	-.02	.01	-.05	-1.8	.070	-.13	-.06	-.04
TAIdent	.08	.01	.31	10.3	.000	.53	.30	.25

[a] Predictors: (constant), DLEAcess = Limited Access to Emotion Regulation Strategies; CSBlame = Self-blame; CPlan= Refocus on Planning; CRefocus= Positive Refocusing; and TAIden= Difficulty Identifying Feelings.[b]Dependent Variable: Beck T.

Table 12

Optimal Model: Original Subscales and BDI

					Change Statistics				
Model	*R*	*R* Square	Adjusted *R* square	Std. error of the estimate	*R*-square change	F change	*df*1	*df*2	Sig. *F*. change
	.626	.39	.39	.97	.39	134.77	5	1048	.000

Note. Predictors: (constant), TAIden = Difficulty Identifying Feelings; CRefocus = Positive Refocusing; CSBlame = Self-blame; CPlan = Refocus on Planning; and DLEAcess = Limited Access to Emotion Regulation Strategies; Dependent. Variable: Beck T.

Table 13

Optimal Model: Original Subscale Factors and BDI

	ANOVA				
Model	Sum of squares	*df*	Mean Square	*F*	Sig
Regression	637.41	5	127.48	134.77	.000[a]
Residual	991.33	1048	.95		
Total	1628.4	1053			

[a] Predictors: (constant), TAIden = Difficulty Identifying Feelings; CRefocus = Positive Refocusing; CSBlame = Self-blame; CPlan = Refocus on Planning; and DLEAcess = Limited Access to Emotion Regulation Strategies.[b] Dependent variable: Beck T.

parsimonious model involving the fewest number of original subscales from three emotion regulation inventory which produced the largest, overall multiple correlations.

Table11 is a coefficient table for the aforementioned analysis. The *b* coefficient is the slope of regression line and the constant is the intercept of regression line on Y axis. The *b* coefficient presents the average of change in value of dependent variable when independent variable increases or decreases. The *b* coefficient is unstandardized in that in that it reflects the units of measurement of the subscale that produced it. The measures completed by subjects' can be transformed into standard scores so that coefficients produced by different measures among the independent variables can be standardized and compared more easily. The Sig. column presents the level of statistical significance of each variable. According to Table 11 all of variables are statistically significant, that is, each contributes to the overall *R*-square value (when considered to enter last into a regression model), except CRefocus = Positive Refocusing which is

nearly significant Residuals were examined and no problem with heteroscedasticity was present.

Research Objective #2: A) Consolidation of 17 Emotion Regulation Inventory Subscales Principal Components Analysis

Principal components analyses with varimax rotation were conducted using all 92 items of the three emotion regulation inventories (i.e., 36 items from Difficulties Emotion Regulation Scale [DERS], 36-item from Cognitive Emotion Regulation Scale, and 20 items from the Toronto Alexithymia Scale). All of the items in the three inventories were of the Likert-type, scaled 1-5. This approach was justifiable based on the premise that several author-researchers have each developed operational definitions of emotion regulation by developing inventories that likely reflect the same, overlapping or distinct constructs. An examination of all inventories reflecting the is fact through principal components analysis may reveal a more parsimonious configuration of similar factors , refined or elaborated factors, or "new" unique factors, given that a single, large sample is responding to the entire family of items at the same time. This examination may represent a useful, first step in evaluating what a more comprehensive emotion regulation measure should contain, as it is more inclusive of the concepts in included in more recent models of emotion regulation (e.g., Gross's Process model of emotion regulation, 2007) Initially, two principal components analyses were completed, one for men and one for women, to qualitatively assess whether participants' patterns of responses differed due to gender. However, the resultant principal components produced by the two analyses were

highly similar. Specially, the female sample produced 10 factors while the male sample produced nine.

Table 14 below presents the names of the new factors derived from the analysis (men and women combined). In Table 14, the factors were numbered sequentially, based on the decreasing proportion of variance accounted for by each factor, within each analysis.

A group of four undergraduate students convened to assign names to the factors, and these names were then compared to those assigned by the investigator and the supervising faculty member. The faculty supervisor then met once again with the student committee and finalized the labels (see Table 14). Appendix G presents the item assignment of consolidated measures.

Table 15 highlights the manner in which the factors from separate principal components analysis conducted for male and female participants overlapped. Because the separate component analyses were highly similar, a single principal components analysis containing both data from male and female respondents was conducted (n = 1041). Appendix H presents the item loading for the rotated component matrix. Bolded items were assigned to particular components listed in each column. Table 16 presents a summary of the variance accounted for in the data set. Slightly over 52% of the variance was accounted for cumulatively (10 factors). Components accounting *for less than 1.5% or less of* the variance in the data set were dropped from further consideration. This criterion is consistent with the point of the change in slope observed in a visual inspection of the scree plot (see Figure 4). The plot presents the particular factor numbers in relation to its eigenvalues. In principal components analysis, the number of prospective

Table 14

Names/Descriptors Assigned By Present Investigator to the 10 factors Derfived From Principal Components Analysis (Male and Female Participants Combined)

Factor 1	Difficulty identifying and describing feelings	
	Example 1:	I have feelings that I can't quite identify.
	Example 2:	I am clear about my feelings.
Factor 2	Loss of control over behavior and perceived helplessness	
	Example 1:	When I'm upset, I have difficulty controlling my behaviors.
	Example 2:	When I'm upset, I believe that I will remain that way for a long time.
Factor 3	Active copying and positive reframing of problem	
	Example 1:	I think of what I can do best.
	Example 2:	I think that the situation also has its positive sides.
Factor 4	Contemplation and self-reflection	
	Example 1:	I often think about how I feel about what I have experienced.
	Example 2:	I care about what I am feeling.
Factor 5	Self-derogation and castigation	
	Example 1:	When I'm upset, I feel like I am weak.
	Example 2:	When I'm upset, I feel guilty for feeling that way.
Factor 6	Assuming, accepting blame, or responsibility	
	Example 1:	I feel that I am the one to blame for it.
	Example 2:	I think that I have to accept that this has happened.
Factor 7	Externalization of blame	
	Example 1:	I feel that others are responsible for what has happened.
	Example 2:	I think about the mistakes others have made in this matter.
Factor 8	Disruption of thoughts and action (when upset)	
	Example 1:	When I'm upset, I can still get things done.
	Example 2:	When I'm upset, I have difficulty concentrating.
Factor 9	Focus on pleasant thoughts	
	Example 1:	I think of nicer things that what I have experienced.
	Example 2:	I think of something nice instead of what has happened.

Table 15

Comparison of Factor Overlap for Principal Components Analyses for Men and Women

Women's Factor 1 was identical to Men's Factor 2.
Women's Factor 2 included all items in Men's Factor 5, plus a few additional items.
Women's Factor 3 was identical to Men's Factor 1.
Women's Factor 4 included all items in Men's Factor 3, plus a few additional items.
Women's Factor 5 was identical to Men's Factor 4.
Women's Factor 6 include all items in Men's Factor 6, plus a few additional items.
Women's Factor 7 include all items in Men's Factor 7, plus a few additional items.
Women's Factor 8 included all items in Men's Factor 8, plus a few additional items.
Women's Factor 9 included all items in Men's Factor 9, plus a few additional items.

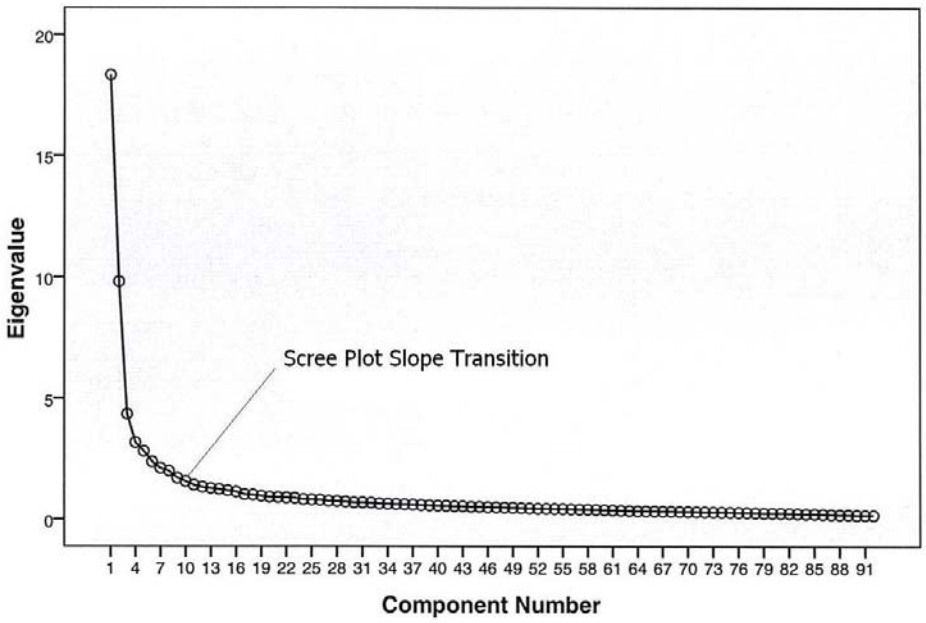

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Figure 4. Scree plot.

Table 16

Extraction Method: Principal Component Analysis

Loadings component	Initial Eigen value			Extraction sum of squared		
	Total	% of variance	Cumulative ’%	Total	% of variance	Cumulative %
1	17.81	19.57	19.57	17.81	19.57	19.57
2	10.05	11.05	30.62	10.05	11.05	30.62
3	4.24	4.67	35.28	4.24	4.66	35.28
4	3.14	3.45	38.73	3.14	3.45	38.73
5	2.75	3.02	41.75	2.75	3.01	41.75
6	2.35	2.58	44.33	2.35	2.58	44.33
7	2.08	2.29	46.61	2.08	2.29	46.61
8	1.98	2.18	49.79	1.98	2.18	48.79
9	1.67	1.83	50.63	1.67	1.83	50.63
10	1.53	1.68	52.31	1.53	1.68	52.31

components or factors generated can be the same as the number of items included in the test. Therefore, use of a scree plot, a cut-off criterion, and consideration of the interpretability of the factors retained by the researcher help identify useful factors. Therefore, at the position of Factor 10 in the plot, there is a noteworthy change in the slope, which indicates that consideration of additional factors is likely to be unimportant.

Conceptually, the new, consolidated factors appear to define the following constructs: (a) maladaptive or problematic emotion regulation (deficits or problems); and (b) adaptive emotion regulation coping approaches. Subjectively, the maladaptive emotion regulation problems include difficulty identifying and describing feelings, loss of both control over behavior and perceived happiness, self-derogation and castigation, externalization of blame, and disruption of thoughts and action (when upset). On the other hand, active coping and positive reframing of problems, contemplation and self-reflection, and focus on pleasant thoughts would likely be construed by most experts as generally adaptive emotion coping strategies; they would represent emotion coping

behaviors that clinicians would likely want to help clients develop or enhance in psychotherapy. The new factor labeled self-distraction and avoidance could be construed as either adaptive or maladaptive in many contexts.

Each of the new factors was also evaluated in terms of internal consistency (reliability). Cronbach's alpha was calculated for each of the 10 factors and these data are reported in the table below (Table 17). With the exception of Factor 10, the internal consistency of these factors is exceptionally high. The factors were adjusted slightly by eliminating a few items on some factors so as to significantly improve the size of Cronbach's alpha value.

In summary, the 17 original subscales published in the context of three self-report inventories contained a total of 92 items; these items were consolidated by the present investigator into 10 factors through principal components analysis. Appendix H presents the means, standard deviation, and Cronbach's alpha values for these 10 factors for the entire sample. The final (10th) factor was dropped from further consideration by the present author due to unacceptably low Cronbach's alpha (.50) and a nonsignificant correlation with the BDI between men and women on mean scores for any of these factors ($p > .20$). The new nine factors and each item are presented in Appendix G.

Multiple Regression Analysis Involving The BDI and the New Consolidated Emotion Regulation Subscales

Table 17 presents mean, standard deviation, and Cronbach's alpha for each of the new consolidated factors, as well as Beck Depression Inventory-II. Table 18 presents the correlation matrix for all 10 factors and the BDI-II. It shows that Factor 1: Difficulty identifying and describing feelings; Factor 2, Loss of control over behavior and perceived

Table 17

Means and Standard Deviation and Cronbach's Alpha

Factor	Name of factor	Means	St. deviation	Crnbach's alpha
New Factor 1	Difficulty identifying and describing feelings	27.53	9.00	.91
New Factor 2	Loss of control over behavior and perceived helplessness	19.91	8.14	.92
New Factor 3	Active copying and positive reframing of problem	38.67	8.16	.90
New Factor 4	Contemplation and self-regulation	18.93	5.14	.82
New Factor 5	Self-derogation and castigation	13.42	5.61	.91
New Factor 6	Assuming, Accepting blame or responsibility	28.52	6.56	.82
New Factor 7	Externalization of blame	5.90	2.21	.83
New Factor 8	Disruption of thoughts and action (when upset)	8.07	3.10	.88
New Factor 9	Focus on pleasant thoughts	10.72	3.01	.74
Beck T				

Table 18

Correlation Matrix: New Consolidated Emotion Regulating Factors—Report Beck T in the Test

Person correlation	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9
Factor 1 Difficulty identifying and describing feelings	.56								
Factor 2 Loss of control over behavior and perceived helplessness	.25	-.27							
Factor 3 Active copying and positive reframing of problem	.32	.12	-.50						
Factor 4 Contemplation and self-reflection	.50	.61	0.07	.04					
Factor 5 Self-derogation and castigation	3.6	.42	.15	-.20	.45				
Factor 6 Assuming, accepting blame or responsibility	.19	.30	0.08	0.07	.18	.25			
Factor 7 Externalization of blame	.41	.66	0.09	0.07	.49	.42	.24		
Factor 8 Disruption of thoughts and action (when upset)	0.03	-.04	.47	0.21	.05	.11	.05	-.03	
Factor 9 Focus on pleasant thoughts	.53	.53	-.26	.17	.39	.35	.17	.45	-.13
Beck T									

Note. All correlation greater than .06 were significant at $p < .05$ or less.

helplessness; and Factor 8, Disruption of thoughts and action (when pset) had the three largest zero-order correlations with BDI-II.

Analysis involved simultaneous entry of all nine new factors. Factors with low semi-artial correlations were eliminated from the subsequent, final model if they also had zero-order correlations of less than .2. This resulted in a parsimonious model involving the fewest number of new emotion regulation factors that produced the largest, overall multiple correlations (*r*-squared). This model is presented in Tables 19, 20, and 21. The model included the consolidated factors.

Research Objective #2: (B) Logistic Regression of DSM-IV Mood Disorder Diagnostic Group Onto New, Consolidated Emotion Regulation Factors

In this section, the results of a logistic regression analysis involving the new, consolidated emotion regulation factors was used to optimally differentiate research participants who do, versus do not meet DSM Criteria for A Mood Disorder is presented.

SCID Interview Descriptive Statistics and Results

A total of 947 students (574 females, 373 females) of the 1,041 students screening sample scored in Categories 1 and 2 of the BDI-II. Of these, 320 were randomly selected to participate in the SCID interviews and 159 from Category of BDI-II agreed. It should be noted that since prior data analyses (see above) showed that none of the emotion regulation measures interacted with gender to predict BDI scores, examination of emotion regulation and its relation to DSM

Table 19

Optimal Model: New Emotion Factors and BDI

					Change statistics				
Model	*R*	*R* square	Adjusted *R* square	Std. error of the estimate	*R*-square change	*F* change	*df*1	*df*2	Sig. *F*. change
.616	38	.38	.99	.38	127.43	5 1040	.000		

[a] Predictors: (constant), New Factor 8 = Disruption of thoughts and action (when upset); New Factor 3 = Active copying and positive reframing of problem; New Factor 1 = Difficulty identifying and describing feelings; New Factor 6 = Assuming, accepting blame or responsibility; and New Factor 2 = Loss of control over behavior and perceived helplessness.

Table 20

Optimal Model: New Emotion Factors and BDI

	ANOVA				
Model	Sum of squares	*df*	Mean square	*F*	Sig
Regression	618.75	5	123.75	127.42	.000[a]
Residual	1009.99	1040	.97		
Total	1628.73	1045			

Table 21

Coefficients

Model	B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part
(Constant)	.59	.210		2.79	.005			
New Factor 1	.04	.004	.28	9.05	.000	.52	.27	.22
New Factor 2	.03	.006	.13	4.64	.000	.52	.14	.11
New Factor 3	-.02	.004	-.15	-5.71	.000	-.26	-.17	-.14
New Factor 6	.03	.005	.14	4.77	.000	.34	.15	.12
New Factor 8	.06	.013	.14	4.23	.000	.44	.13	.10

Note. Dependent bariable: Beck T, Factors 1 ,3 ,6, 8, and 2 have the highest directionality of results. Predictors: (constant), New Factor 1 = Difficulty identifying and describing feelings; New Factor 2 = Loss of control over behavior and perceived helplessness; New Factor 3 = Active copying and positive reframing of problem; New Factor 6 = Assuming, accepting blame or responsibility, New Factor 8 = Disruption of thoughts and action (when upset).

diagnostic groups was carried out without consideration of gender. Also, examination of these research questions based on these small gender subgroups would have been less than optimal for logistic regression.

Based on the decision rules for selecting participants who scored in the DSM-IV (APA, 1994) diagnostic groups of MDE and Mood Disorder NOS from actual SCID interviews (see methods section above), a total of 211 participants were placed in one of the two diagnostic groups (see Table 23). That is, 52 interviewees were placed in the DSM-IV (APA, 1994) mood disorder "positive" group (DSMPOS) based on their SCID interview results, while 159 were placed in the nonmood disordered group (DSMNEG). These results are presented in Table 24 "Classification Table." This grouping of interview participants served as the dependent variable in a logistic regression analysis involving the Consolidated emotion regulation factors derived from a principal components analysis of the TAS-20, DERS, and CERQ emotion regulation inventories.

The results showed that when all other factors are held constant, two emotion regulation constructs significantly differentiate DSM mood disordered from nondisordered subjects (Table 22): Factor 2: Loss of control over behavior and perceived helplessness; and Factor 6: Assuming, accepting blame or responsibility. According to the results, the emotion regulation issues that seem most important in differentiating people with DSM Major Depressive Episode and Mood Disorder NOS, versus those without a mood disorder.

Table 22

Logistic Regression Results: DSM Mood Disorder Diagnoses and Consolidated Emotion Regulation Factors

							95% C.I. for EXP(B)	
		B	SE	Wald	*df*	*Sig*	Exp(B)	Lower	Upper
Step 1									
Factor 1	Difficulty identifying and describing feelings	.01	.02	.04	1	.85	1.01	.96	1.05
Factor 2	Loss of control over behavior and perceived helplessness	.12	.04	10.24	1	.00	1.13	1.05	1.21
Factor 3	Active copying and positive reframing of problem	0.04	.03	2.16	1	.14	.96	.92	1.01
Factor 4	Contemplation and self-reflection	0.04	.04	.72	1	.40	.97	.89	1.05
Factor 5	Self-derogation and castigation	0.02	.04	.24	1	.63	.98	.91	1.06
Factor 6	Assuming, accepting blame or responsibility	.08	.04	4.51	1	.03	1.08	1.01	1.16
Factor 7	Externalization of blame	.03	.09	.10	1	.75	1.03	.86	1.23
Factor 8	Disruption of thoughts and action (when upset)	-.05	.09	.30	1	.59	.96	.80	1.13
Factor 9	Focus on pleasant thoughts	0.08	.08	1.12	1	.28	.92	.79	1.07
Constant		-2.67	1.84	2.11	1	.15	.07		

Note. Variable(s) entered on Step 1: Factor 1, Factor 2, Factor 3, Factor 4, Factor 5, Factor 6, Factor 7, Factor 8, and Factor 9.

Table 23

Case Processing Summary: Logistic Regression Statistics Table

Unweighted cases	*N*	Percent
Selected cases		
Included in analysis	211	99.5
Missing cases	1	.5
Total	212	100.0
Unselected cases	0	0
Total	212	100.0

Note. If weight is in effect, see classification table for the table number cases.

Table 24

Classification

		Predicted		
		MOODDIAG		Peercentage
Observed		0	1	correct
Step 1 MOODDIAG	0	126	18	87.6
	1	32	34	51.5
Overall percentage				76.3

Note. The cut value is .500.

Table 24 shows that when the consolidated mood regulation measures are the sole criteria for assigning subjects to depressed versus nondepressed groups, truly nondepressed subjects are almost never misassigned to the depressed group. However, among those who have a diagnosable disorder, there is only slightly better than a 50/50 chance that they may be assigned to their appropriate clinical group. Thus, the sensitivity of this “test” of diagnosis is not high, despite the fact that the measures differentiate depressed and nondepressed persons overall.

This result suggested that the consolidated measure effectively identifies individuals with nonclinical diagnosis (87% chance). However, this measure fails to accurately assign true DSM mood disordered subjects into the mood disordered group, as accuracy is little greater than chance (only 52% change). Therefore, the consolidated measure requires additional instrument (e.g., SCID and BDI) to accurately diagnose clinical depression.

CHAPTER V

DISCUSSION

The current study investigated the association between emotion regulation problems and the spectrum of self-reported symptoms of depression through a standardized inventory and structured clinical interview. Given the complexity of the study, a brief overview of the processes and results will be provided as an overview to this discussion

In order to evaluate whether a particular combination of these factors relate most strongly to the standardized inventory assessing depression---the BDI, a series of multiple regress analyses were conducted. Gender was evaluated to determine whether it interacted with emotion regulation to predict depression symptom severity and only one of emotion regulation strategy (Difficult in identifying emotion) was found to be moderated by gender. This author also sought to consolidate a spectrum of emotion regulation constructs so as to identify the most salient, core concepts that various researchers have attempted to assess to date. Specifically, the 92 items (representing 17 subscales) from three emotion regulation measures: DERS, CERQ, and TAS-20, were consolidated into nine new factors of “core” factors. These factors tended to fall into two groupings, that is, emotion regulation problems and coping strategies. This author also assessed the power of these nine factors to differentiate individuals formally diagnosed with a DSM mood disorder involving depression, from individuals not diagnosed as depressed.

Because a primary goal of the present study was to assess whether certain emotion regulation problems and coping strategies are more strongly related to the severity of depression symptoms than others, zero-order correlations between the BDI and a range of emotion regulation measures, as well as multiple regression analyses were conducted. The results clearly showed that, generally speaking, irrespective of a person's gender, the emotion regulation indicator (involving difficulty identifying emotion) most strongly related to the severity of depression symptoms. However, the study also revealed that men with alexithymia are at risk for clinical depression.

Specific to the severity of self-reported depression within these 17 emotion regulation subscales are: (a) difficulty identifying feelings (TAS-20 subscales), (b) limited access to emotion regulation strategies (DERS subscale), (c) positive refocusing (CERQ subscale), (d) self-blame (CERQ subscales), and (e) refocus on planning (CERQ subscales).

As mentioned above, the author consolidated the 17 subscales into nine new factors (see Table 13). Among the subscales, five new consolidated factors demonstrated a statistically significant strong relationship to severity of the BDI symptoms. These new consolidated factors are: (a) difficulty identifying and describing feelings, (b) loss of control over behavior and perceived helplessness, (c) active coping and positive reframing of problem, (d) assuming, accepting blame or responsibility, and (e) disruption of thoughts and action (when upset).

The combination of these factors revealed information that may have relevance to the researchers and clinicians, such as what types of emotion regulation strategies that

individuals with depression may suffer from and how these emotion regulation problems affect the severity of depression.

In the present study, the severity of depression symptomology in college students was most strongly related to several closely related emotion regulation concepts. First, alexithymia was a most prominent predictor (highest zero-order correlations with BDI-II severity), which relates to problems identifying and describing strong negative emotions. Relatedly, alexithymia formed a linear combination of predictors along with the concepts of problems with focusing, planning/engaging in goal-directed behavior, and lack of self-efficacy. All of these predictors, when considered together, can be construed as interrelated emotion regulation problems. In the most concrete view, it is difficult to focus, plan/engage in goal directed behavior, if one experiences fundamental difficulties in identifying and expressing strong aversive feeling states when depressed.

It is important to ask how the results of the present study in have relevance for the most prominent models of emotion regulation. In the Process Model of Emotion Regulation, Gross described five major components that constitute emotion regulation: (a) situational selection, (b) situational modification, (c) attentional development, (d) cognitive changes, and (e) response modulation. The results of this study suggest that cognitive changes and response modulation are the two major components that directly relate to an increasing risk of depression. This study's procedures and results do not have particular relevance for such things as the significance of situational selection, situational modification, and attentional development highlighted in Gross due to the limited type and range of emotion regulation constructs examined in this study

Also, Koole's (2009) model of emotion regulation (see Figure 5) envisions three emotion-generating systems that each reflects three psychological functions. The three emotion generating systems are attention, knowledge, and the body, while the psychological functions are need-oriented, goal-oriented, and person-oriented.

Of relevance to the present study is Koole's (2009) emphasis on the idea that the emotion-generating system involving Attention is interdependent with the functional "needs" of: (a) thinking pleasurable thoughts, (b) effortful distraction and (c) thought suppression and attentional counter-regulation. None of these latter three emotion regulation functions can be realized if the person is significantly affected by alexithymia (i.e., they are unable to identify or describe feeling states), which is a necessary precursor to engaging in "functional" emotion regulation.

The results of the present study also raise interesting questions about the etiology of depression. For example, the lack of ability to identify or label emotions is not

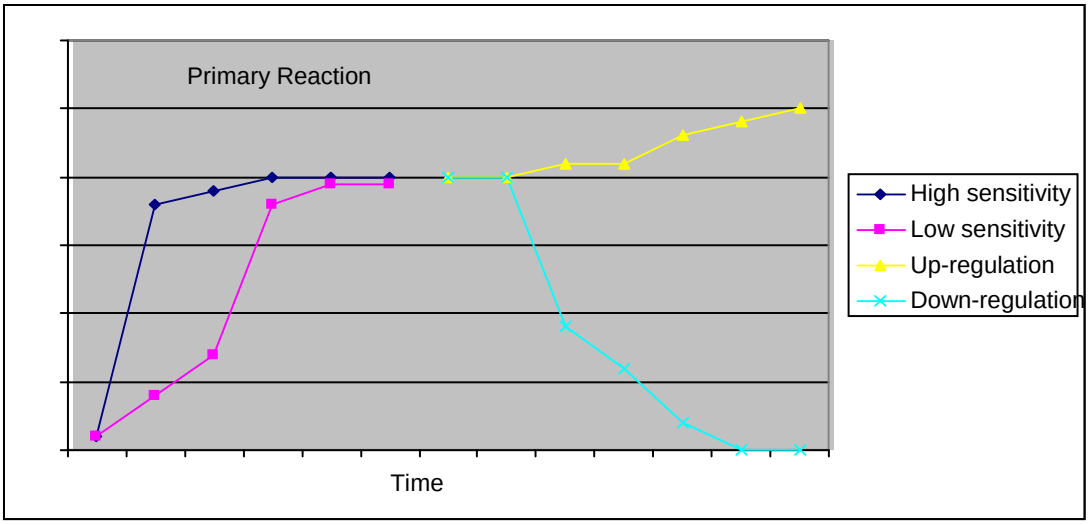

Figure 5. Model of emotional sensitivity versus emotional regulation.

formally included in the DSM-IV (APA, 1994) as formal diagnostic criterion for depression. The absence of this issue may mean that clinicians may not be alerted to the fact that alexithymia per se, may need to be a focal point of treatment for at least some patients. It is additionally interesting to note that the combinations of new and/or "revised" factors reported in the present study include maladaptive and adaptive emotion regulation strategies. These results suggest that it is likely important for clinicians to assess both maladaptive and adaptive emotion regulation strategies that individuals demonstrate in order to understand the relationship between their overall function in emotion regulation and depression. It would be of benefit to include the aforementioned factors in the effort to develop a future treatment module for depression. Perhaps it is important to conceptualize depression as a disorder that, in part, is comprised of deficits in broader domains of emotion regulation approach (vs. merely depressed mood and/or anhedonia).

Gender

The present study showed that gender appeared to be independent of emotion regulation in predicting the severity of depression, with the exception that it does interact with one emotion regulation construct (i.e., the ability to identify emotion) in predicting depression. The interaction shows that for males bur not females, increasing inability to described feeling is related increasing severity of depression. This result regarding men and alexithymia is in full agreement with the results of a recent meta-analysis that investigated the relationship between for alexithymia and gender (Levant, Hall, Williams,

& Hasan, 2009). Levant and his researchers concluded that men are at risk to suffer from alexithymia more than women.

One possible explanation of men's difficulty in identifying and expressing feelings might be related to external psychosocial factors, such as culture, social norms, gender roles, and learning (i.e., what is appropriate social behavior in particular culture). Levant proposed the theory Normative Male Alexithymia (NMA; Levant 1992). This theory suggested that men's alexithymia is "the product of gender role socialization." This theory suggested that men are discouraged from expressing their feelings during childhood by people they associate with such as family members, peers, and teachers. They are also reinforced to not talk about their feelings by positive and negative reinforcement. Such socialization may create an increasingly important, relative deficiency in emotion regulation coping as their depression symptoms become increasingly severe.

The present study's finding regarding the lack of a relationship between higher level of emotion regulation coping strategies and gender is not, however, consistent with other emotion regulation studies (Dyson & Renk, 2005; Martin & Dahlen, 2005; McBride & Bagby, 2006). McBride and Bagby noted that the utilization of emotion regulation strategies varied as a function of gender. They found that women engaged in rumination more often than men and that this appeared to increase their risk for mood disorder. Holen-Hoeksema et al. (1999) also addressed the gender differences in the utilization of emotion regulation strategies. These researchers discovered that women have a more frequent tendency to experience chronic negative circumstances (or strain), attain a low sense of mastery, and engage in ruminative cognitive coping style, which may increase

their vulnerability to depression. The current study failed to find such research results that suggests gender differences in higher level of emotion regulation coping strategies. The possible explanations for this research finding are: (a) use of measures in the present study that are different from those used in prior investigations, and (b) the unique characteristics of sample of the present study compared to other studies (e.g., about 80% of sample is age 18-19 years of age). Indeed, other studies tended to use older adults and not infrequently used self-referred persons with mood disorder, rather than a cross-section of college students. The mood disorder and regulation characteristics of these different samples may account for differences in findings.

Common or Consensus Constructs of Emotion Regulation

The investigator conducted a principal components analysis to consolidate the 92 items from three emotion regulation measures (DERS; CERQ; TAS-20). The analysis revealed nine new factors. Five of the nine new factors are somewhat intercorrelated and reflect both accepted constructs in the domain of emotion regulation, as well as depression symptoms. These factors are: Factor 2, ,loss of ontrol over behavior and perceived helplessness; Factor 1, difficulty identifying and describing feelings; Factor 8, disruption of thoughts and action (when upset); Factor 3, active coping and positive reframing of problem; and Factor 6, assuming, accepting blame or responsibility.

The new factors that optimally related to severity of depression in the present study and which differentiated depressed from nondepressed college students may have implications for understanding the associated features of mood disorders outlined in

DSM-IV (APA, 1994) criteria for major depressive episode For example, the results of the present factor analysis indicated that the key factor to predicting an individual's depression symptoms is difficulty identifying and describing feelings. In the DSM-IV (APA, 1994), however, there is no specific diagnostic criterion for depression that addresses the difficulty identifying and describing feelings (which is commonly referred to as alexithymia). Yet, it is at least a significant problem that relates to the severity of depression that is worthy of mention as an accessory problem in DSM. In addition, there is no specific mention in DSM-IV (Mood Disorders; APA, 1994) of the problem of loss of control over behavior; assuming or accepting blame or responsibility, or having disruptive thoughts or action when upset. Again, the present study suggests that additional associated features of depression episodes in DSM might be further investigated and possibly included in future editions.

According to results, the two emotion regulation constructs specifically distinguish DSM mood disordered from nondisordered subjects (Table 18): Factor 2, loss of control over behavior and perceived helplessness; and Factor 6, assuming, accepting blame or responsibility. These two constructs are also included in the five subscales that form a linear combination accounting for maximum variance in BDI-II. When considered together, the results of the present study suggest that these two emotion regulation factors seem to be the most important in predicting not only severity of depression, but also in helping to provide diagnostic information of clinical depression (differentiating people with DSM Major Depressive Episode and Mood Disorder NOS, versus those without a mood disorder). Both constructs are certainly consistent with the psychological contributions to depression that have been most strongly emphasized in

recent years (i.e., the learned helplessness models of depression; Cole et al., 2007), which emphasize both helplessness and self-derogation (regarding ineffectiveness, helplessness, etc.). These findings also suggest that helping depressed patients more specifically overcome the experience of ineffectiveness and helplessness/hopelessness should certainly remain focal points of treatment among practitioners; it is certainly the most distinguishing features if one conceptualizes depression as primarily a problem of emotion regulation.

As has been mentioned previously, the 17 subscales from three different emotion regulation measures were consolidated into nine new emotion regulation factors: Factor 1, difficulty identifying and describing feelings; Factor 2, loss of control over behavior and perceived helplessness; Factor 3, active copying and positive reframing of problem; Factor 4: contemplation and self-reflection; Factor 5, self-derogation and castigation; Factor 6, assuming, accepting blame or responsibility; Factor 7, externalization of blame; Factor 8, disruption of thoughts and action (when upset); and Factor 9, focus on pleasant thoughts.

Several emotion regulation subscales published to date were combined or consolidated effectively (exceptionally high Chronbach's alpha values) into new factors. Other factors represent new or unique factors. Specifically, the new Factor 1, difficulty identifying and describing feelings is primarily a combination of Toronto Alexithymia Scale subscales named "difficulty identifying feelings and difficulty describing feelings." Therefore, the first consolidated factor contains much of the core feature reflected in alexithymia and affirms it as a stable construct. On the other hand, the TAS subscale of

“externally oriented thinking” comprised much of the consolidated Factor 10, which was dropped in the present study due to poor internal consistency.

Factor 2, loss of control over behavior and perceived helplessness is comprised exclusively of DERS items, which is representative of five of the six original subscales. This new factor does not fully represent any of the 18 original emotion regulation subscales. Also, Factor 3 captures the key elements of cognitive emotion regulation strategies (active coping and positive reframing of problems). It is comprised entirely of a new configuration of a variety of items from the Cognitive Emotion Regulation Questionnaire (CERQ).

Similarly, Factor 4 (contemplation and self-reflection) is also comprised of items from the DERQ primarily, but does not represent any of the original DERQ subscales. Factors 5 and 6 are related conceptually. Factor 5 is comprised of a range of DERQ items, none of which are members of a particular DERQ subscale; It relates to an active process of self-derogation and self-criticism, while a related factor (conceptually), Factor 6, reflects an acquiescence and acceptance of perceived blame or responsibility for negative external events. It is a combination of nearly all items from the first two subscales of the Cognitive Emotion Regulation Questionnaire (acceptance of responsibility and self-blame). Factors 5 and 6 are, therefore, related but represent quite different responses to the experience of aversive affect. Factor 7, externalization of blame is a literal replication of the CERQ externalization of blame subscale. It appears to be in direct opposition to Factor 6, in that the person enhances their emotional state by externalizing blame and responsibility.

Factor 8 is also a literal replication of the DERS subscale, difficulties engaging in goal-directed behavior. The present author elected to rename the new factor, disruption of thought and action when upset, as it reflects an interruption or disruption of intentional action. Finally, Factor 9, focus on pleasant thoughts, is composed of Cognitive Emotion Regulation Questionnaire items that do not represent a particular CERQ scale. In summary, the new consolidated factors in the present study represent a combination of existing "factors," but a number of new and modified factors. As has been noted, they represent a combination of emotion regulation deficits and problems, as well as emotion regulation coping strategies that may be construed as either adaptive or maladaptive, depending on the circumstance or prominence in one's repertoire of coping. In summary, the consolidated subscales from the three emotion regulation inventories represent both an affirmation of the composition of some existing emotion regulation subscales, but some clarification and refinement of existing measures/subscales.

It is interesting to note that some factors overlap with, and in some cases are independent of the 17 subscales that are found in the three separate, original emotion regulation inventories. Even well-used emotion regulation measures such as DERS, CERQ, and TAS-20 contain limited "core" emotion regulation strategies in their assessment items. This is evidence of the complicated nature of emotions as well as the limitations of current assessment tools for emotion regulation studies.

It is important to note that the discussion in this section is independent of any diagnostic consideration of depression per se, because the principal components of analysis were conducted solely with the 1,043 or so college students and without any

consideration of how they scored on the BDI-II. This discussion is purely about how to conceptualize emotion regulation in general.

Working Definition of Emotion Regulation

As this author mentioned before, there was lack of consensus regarding a "gold standard" model of emotion regulation. The lack of consensus also leads to lack of "gold standard" measure to assess the multidimensional nature of emotion regulation. Subsequently, these two limitations become obstacles for researchers who seek to make contributions to the development of effective emotion regulation-focused treatment for psychopathology. This author proposes a "working" definition of emotion regulation. Emotion regulation is a mechanism that people engaging consciously or unconsciously to alter positive and negative emotion, reduce, enhance, or maintain emotion. Emotion regulation involves temporal and sequential processes. Individuals are only able to learn and utilize higher levels of emotion regulation strategies (e.g., complex, cognitive strategies) after they master lower level of emotion regulation strategies and most basically overcome the deficiencies clinicians identify as alexithymia in late childhood and adulthood. Individuals with a difficult temperament (e.g., high inhibition) or high sensitivity to emotion also may require more extensive learning/training experienced during development in order to have available to them a broad range of emotion regulation strategies and, in particular, complex cognitive and behavioral approaches to regulation. Furthermore, external factors (e.g., environment) may also interfere with individuals' ability to reach higher levels of emotion regulation. Certainly, it is clear that

individuals with higher-order, cognitive emotion regulation abilities seem to be better able to control their environment by selecting situation or modifying situation.

The present author proposes two different levels of emotion regulation in the emotion regulation (see Figure 6). The basic level of emotion regulation skills includes (a) ability to identify and express emotion, and (b) ability to experience emotions and escape emotional confusion. The higher level of emotion skills consist of positive coping strategies such as (a) active coping, (b) positive reframing, and (c) external oriented thinking. These items are prominent emotional regulation strategies that this study confirmed for each level of emotion regulation. Further examinations to determine additional items to include in each level and their heretical order in each level are much needed.

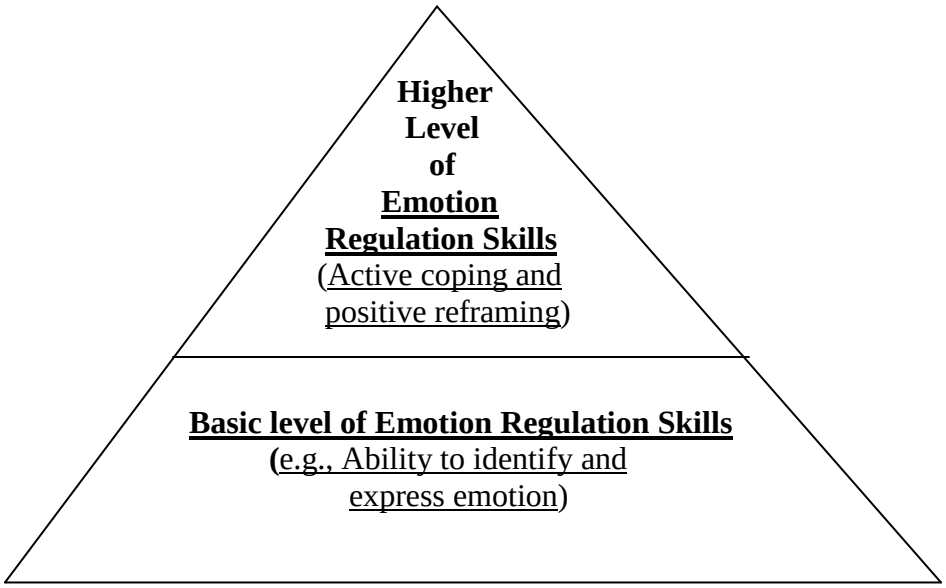

Figure 6. Hieratical model of emotion regulation.

Logistic Regression

It was noted previously that consolidating existing emotion regulation items across available inventories was justifiable based on the premise that several author-researchers have each developed operational definitions of emotion regulation by developing inventories that likely reflect the same, overlapping or distinct constructs. An examination of all inventory items through principal components analysis may reveal a more parsimonious configuration of similar factors, refined or elaborated factors, or "new" unique factors, given that a single, large sample is responding to the entire family of items at the same time. It was also noted that the present examination of this family of items may represent a useful, first step in evaluating what a more comprehensive emotion regulation measure should contain, as it is more inclusive of the concepts in included in more recent models of emotion regulation (e.g., Gross, 2007).

The results of this study reveal that Factor 2, loss of control over behavior and perceived helplessness, and Factor 6, assuming, accepting blame or responsibility are the key emotion regulation factors that help to distinguish clinical and nonclinical depression. Results of the logistic regression in the present study (which related new, consolidated factors to positive vs. negative mood disorder diagnostic status) confirmed some results of Martin and Dahlen's gender-controlled research study (2005). Both studies suggested that self-blame is a maladaptive emotion regulation strategy that increases a risk of depression; whereas the action of "putting into perspective," planning and positive reappraisal help to reduce the risk of depression. However, this study did not support the idea that other maladaptive strategies (e.g., blaming others, rumination and

catastrophizing) differentiated depressed and nondepressed persons--despite the fact that Martin and Dahlen (2005) had suggested this was a key risk factor for depression. The findings of this study suggested that feelings of helplessness, a sense of inability to control impulse behavior, self-blame, and accepting responsibility for difficult situations increases a risk for individuals to suffer from clinical depression. To date, a limited number of emotion regulation studies have been conducted to investigate how specific or combinations of emotion regulation strategies affect of clinical depression. The findings from this study have important implications suggesting that both researchers and clinicians should conduct research as well as develop and provide treatment. The clinical implications of this study will be discussed in the later section.

Strengths and Limitation of This Study

One of the major strengths of the present study was the unusually large sample of participants. This large sample increases the likelihood that the results are replicable, and that they may possess good external validity. The large samples used for both the BDI investigations and the structured clinical interviews are significantly larger than those found in the majority of emotion regulation studies conducted to date.

One of strengths of this study was the use of SCID-I. The SCID-I is a “gold standard” of measure for diagnosis for DSM-IV Axis I (APA, 1994). This instrument has good psychometrics and has been widely used in both clinical and research work.

Another strength of this study is the use of multiple measures and including a large number of subscales. In this study, the researcher investigated the 17 subscales from the above-mentioned measures. These measures covered various strategies of

emotion regulation (e.g., cognitive emotion regulation, alexithymia, and goal-oriented behavior that motivated by emotion). However, one cannot first assume that all of the emotion regulation strategies associated with depression were investigated in this study. Second, it is clear that no particular author of an emotion regulation self-report inventory has yet developed a measure that fully encompasses all of the major emotion regulation problems or coping strategies associated with a particular model. It is clear from the present investigation that authors have emphasized one particular aspect of emotion regulation cognitive versus emotional coping responses, and that a weakness of some measures is the failure to differentiate between emotion regulation problems and emotion regulation coping (e.g., DERS inventory). The modest proportion of variance in BDI scores accounted for by the 19 emotion regulation subscales or nine consolidated factors (derived in the present study) suggests that the investigator may have used a somewhat limited range of emotion regulation constructs, or that emotion regulation is generally not a very robust predictor of depression symptom severity in a college student population. Similar limitations may be reflected in the fact that the present study showed modest accuracy in sorting college students into appropriate positive and negative mood disorder diagnosis groups.

Stronger associations between emotion regulation constructs and clinical diagnosis status (depressed/nondepressed) might have been found if a much shorter period had elapsed between the screening procedures and clinical interview. Mores specifically, the SCID interviews of occurred 2-3 weeks apart and this may have and therefore, the passage of time may have changed the clinical status of some individuals with true mood disorder symptoms. Also, a more complete interview sample of persons

scoring high on the BDI-II would have been desirable; only around 60% of these individuals could be interviewed either because they were unavailable (did not respond to telephone inquiries), or declined the request. While the estimated rates of DSM-IV (APA, 1994) mood disorder in the present study was consistent with rates reported among college students elsewhere, it cannot be positively affirmed that the sample obtained in the present study was actually representative of college students with diagnosable depression.

Limitations of the Principal Components Analysis

One limitation associated with the principal components analysis (factor analysis) relates to the nature of the three original measures (DERS, CERQ, and TAS-20). These are all *self-report measures* that may or may not ideally reflect actual, situational behavior or physiological changes in emotion As virtually no such in vivo indicators of emotion regulation problems or coping exist, it is unclear whether self-report measures more or less valid. Thus, by its nature, the principal components analysis used in the present study probably captures limited domains of the general construct of emotion regulation.

Also, identification of factors through principal component analysis does not assure that any of the new factors necessarily possesses enhanced construct validity. The analysis merely indicates that respondents tended to showed particular *patterns of endorsement* when answering a sequence of questionnaires. Also, the present components analysis was based on participants' responses to the sequence of items as predetermined by the authors of three separate inventories (i.e., respondents completed

one inventory, then another). Ideally, participants would have been administered a single inventory composed of all 92 items, randomly ordered. The presentations of items within the context of separate inventories have affected the principal components analysis in unknown ways. For example, when particular groups of items are presented in close, consistent sequence to one another (within separate inventories), response sets may be established among participants, affecting the degree to which particular items are ultimately shown to intercorrelate with one another. (Items may correlate to some degree due to proximity to one another because they belong to an author's "subscale").

Sample

Another significant limitation of the study is a lack of diversity in overall sample. Lack of diversity reduces the generalizability and comparability of results to other populations. Therefore, it may be useful to attempt to replicate this study in other populations (e.g., elderly, children, adolescents, different ethnicities). The use of normal population (college student mainly between ages 18 to 19) is another limitation of this study. It would be beneficial to conduct a similar study with clinical populations who seek out treatment for their mood disorders. The information from such study can make a significant contribution to improve emotion regulation focus treatment for clinical depressing.

Suggestion for Future Study

This study discovered that the two emotion regulation constructs: Factor 2, perceived loss of behavioral control or helplessness, and Factor 6, assuming, accepting

blame or responsibility, predict the severity of depression as well as differentiating clinical diagnosis of depression (e.g., people with DSM Major Depressive Episode and Mood Disorder NOS, vs. those without a mood disorder). It may be beneficial for clinicians to use the items of two constructs as an additional tool to learn and monitor client's depressive symptoms in psychotherapy. Empirical testing of this idea may reveal that a very short and accessible questionnaires which contains a total of 17 items (Factor 2 contains 12 items and Factor 6 contains 5 items) is most clinically useful. These items addressed emotion regulation strategies that related to cognition, behavior and emotion. Furthermore, it would be a beneficial to conduct further research on therapeutic interventions that addressed the two emotion regulation constructs in order to increase individual's ability to manage depressive symptoms. Because the content of two emotion regulation constructs has focus on specific tasks, it would be more accessible wider range of people (e.g., student, college students) and settings (e.g., school district, manage care setting).

Campbell-Sillis and Barlow (2007) suggested that treatment for depression focuses on five components of Gross's (2007) Process Model of Emotion Regulation. According to the aforementioned results, however, it seems more effective to address cognitive changes (e.g., self-blame, hopelessness, assuming and accepting blame or responsibility) among the five emotion regulation components.

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APPENDICES

Appendix A:

Multidimensional Assessment of Emotion Regulation and Dysregulation (DERS)

Please indicate how often the following statements apply to you by writing the appropriate umber from the scale below on the line beside each item:

1	2	3	4	5
Almost never	sometimes	about half the time	most of the time	almost always
(0-10%)	(11-35%)	(36-65%)	(66-90%)	(91-100%)

_____ 1) I am clear about my feelings.
_____ 2) I am clear about my feelings.
_____ 3) I pay attention to how I feel.
_____ 4) I experience my emotions as overwhelming and out of control.
_____ 5) I have no idea how I am feeling.
_____ 6) I have difficulty making sense out of my feelings.
_____ 7) I am attentive to my feelings.
_____ 8) I know exactly how I am feeling.
_____ 9) I care about what I am feeling.
_____ 10) I am confused about how I feel.
_____ 10) When I'm upset, I acknowledge my emotions.
_____ 11) When I'm upset, I become angry with myself for feeling that way.
_____ 12) When I'm upset, I become embarrassed for feeling that way.
_____ 13) When I'm upset, I have difficulty getting work done.
_____ 14) When I'm upset, I become out of control.
_____ 15) When I'm upset, I believe that I will remain that way for a long time.
_____ 16) When I'm upset, I believe that I'll end up feeling very depressed.
_____ 17) When I'm upset, I believe that my feelings are valid and important.
_____ 18) When I'm upset, I have difficulty focusing on other things.
_____ 19) When I'm upset, I feel out of control.

1---------- 2 ---------- 3 ---------- 4 ---------- 5

Almost never	sometimes	about half the time	most of the time	almost always
(0-10%)	(11-35%)	(36-65%)	(66-90%)	(91-100%)

_____ 20) When I'm upset, I can still get things done.

_____ 21) When I'm upset, I feel ashamed with myself for feeling that way.

_____ 22) When I'm upset, I know that I can find a way to eventually feel better.

_____ 23) When I'm upset, I feel like I am weak.

_____ 24) When I'm upset, I feel like I can remain in control of my behavior.

_____ 25) When I'm upset, I feel guilty for feeling that way.

_____ 26) When I'm upset, I have difficulty concentrating.

_____ 27) When I'm upset, I have difficulty controlling my behaviors.

_____ 28) When I'm upset, I believe that there is nothing I can do to make myself feel better.

_____ 29) When I'm upset, I become irritated with myself for feeling that way.

_____ 30) When I'm upset, I start to feel very bad about myself.

_____ 31) When I'm upset, I believe that wallowing in it is all I can do.

_____ 32) When I'm upset, I lose control over my behavior.

_____ 33) When I'm upset, I have difficulty thinking about anything else.

_____ 34) When I'm upset, I take time to figure out that I'm really feeling.

_____ 35) When I'm upset, I takes me a long time to feel better.

_____ 36) When I'm upset, my emotions feel overwhelming.

Appendix B:

Item Composing the Six DERS Factors

Nonacceptance of emotional response

11) When I'm upset, I become angry with myself for feeling that way.
12) When I'm upset, I become embarrassed for feeling that way.
21) When I'm upset, I feel ashamed with myself for feeling that way.
23) When I'm upset, I feel like I am weak.
25) When I'm upset, I feel guilty for feeling that way.
29) When I'm upset, I become irritated with myself for feeling that way.

Difficulties engaging in goal-directed behavior

20) When I'm upset, I have difficulty getting thing done.
13) When I'm upset, I have difficulty getting work done.
18) When I'm upset, I have difficulty focusing on other things.
26) When I'm upset, I have difficulty concentrating.
33) When I'm upset, I have difficulty thinking about anything else.

Impulse control difficulties

3) I experience my emotions as overwhelming and out of control.
14) When I'm upset, I become out of control.
19) When I'm upset, I feel out of control.
24) When I'm upset, I feel like I can remain in control of my behavior.
27) When I'm upset, I have difficulty controlling my behaviors.
32) When I'm upset, I lose control over my behavior.

Lack of emotion awareness

2) I pay attention to how I feel.
6) I am attentive to my feelings.
8) I care about what I am feeling.
10) When I'm upset, I acknowledge my emotions.
17) When I'm upset, I believe that my feelings are valid and important.
34) When I'm upset, I take time to figure out what I'm really feeling.

Limited access to emotion regulation strategies

15) When I'm upset, I believe that I will remain that way for a long time.
16) When I'm upset, I believe that I'll end up feeling very depressed.
22) When I'm upset, I know that I can find a way to eventually feel better.
28) When I'm upset, I believe that there is nothing I can do to make myself feel better.
30) When I am upset, I started to fell very bad about myself.
31) When I'm upset, I believe that wallowing in it is all I can do.
35) When I'm upset, it takes me a long time to feel better.
36) When I'm upset, my emotions feel overwhelming.

Lack of emotion clarity

1) I am clear about my feelings.
4) I have no idea how I am feeling.
5) I have difficulty making sense out of my feelings.
7) I know exactly how I am feeling.
9) I am confused about how I feel.

Appendix C:

Informed Consent

Introduction/ Purpose: Dr. David Stein, Emi Sumida, M.S., and Sarah Stevens in the Department of Psychology at Utah State University are conducting a research study that will examine whether peoples' *emotional regulation skills* are associated mood, eating and weight management thoughts and behaviors (Emotional regulation skills basically involve the ways that people cope with emotional stress.) The study also examines whether emotional regulation interacts with gender to predict mood-related and mood, eating and weight management thoughts and behaviors. You will be one of approximately 480 participants in this study. A total of 140 participants will be selected within a specific scored in the questionnaires, for follow-up phone interview.

Procedures: If you agree to participate in this research study, the following activities will be expected:

1. A packet of paper and pencil questionnaires will be given to you to take home, complete and bring back to class. The screening packet will be collected by research assistants at the beginning of your next class period by a research assistant. The screening packet will include instructions, demographic information sheet, the *Beck Depression Inventory, Difficulties in Emotional Regulation Scales, Toronto Alexithymia Scale, Cognitive Emotion Regulation Questionnaire, and the Health and Development Questionnaire (ABI*) Completing all of these questionnaires will take about 45 minutes of your time. You will receive extra course credit, consistent with prior arrangements your instructor has made with your class for receiving such credit. For example, most faculties allocate a fixed number of extra credit points per hour of participation in a study. Thus, if a faculty member allocates 4 credit points for their particular class for an experiment and the participant completes about half of the screening packet, they will receive a maximum of 2 points. The method will be applied to the students who do not have lab credits to earn for the classes. For the students of Psychology 1010, the participation of this study will account for "lab" credits.

2. Based on these questionnaire scores on the BDI and/or the ABI, approximately 70 males and 70 females will be invited to participate in a follow-up phone interview involving the Structured Clinical Interview for DSM to further assess the nature and severity of mood and eating disorder symptomology. This structured clinical interview will be audio recorded to assess inter-rater reliability and other statistical issues. The screening sample size is based on consideration of the prevalence rates of major depression and anorexia/bulimia nervosa in the college student population. The interview will address mood, eating and weight management thoughts and behaviors in somewhat more detail. The interview will take approximately 15 to 25minutes at a location and time convenient for you. Additional extra credit; lab credits for psychology 1010 students and 2 credit points for students from other classes (to be negotiated with the instructor) will be provided for this activity. A writing assignment will be offered to the students who may not wish to participate in the follow-up phone interviews in order to earn the additional extra credits.

New Findings: During this research study, you will be informed of any significant new research evidence or changes in procedures that might cause you to change your mind about continuing in the study. If this occurs, your consent to continue participating will be obtained again.

Risks: Participation in this study involves minimal risk, this study may increase your level of awareness of the behaviors, thoughts and actions you rely on to manage your mood, your dietary habits, and how you cope emotionally with stress. Some individuals might find this increased awareness distressing. We are always concerned about issues of safety. If you disclose your intention to harm yourself or others, we are obligated to help you and those around you stay safe by alerting professionals (the University Campus Police, the University Counseling Center, the Student Wellness Center) who can help. While we do not foresee that participants will experience emotional or physical discomfort in this study, Dr. Stein will be available for a consultations and referral. In addition, the University Counseling Center and the Student Wellness Center are campus resources that provide support for emotional or physical distress.

Benefits: There may or may not be any direct benefit to you associated with these procedures. As has been mentioned previously, you may gain greater self-awareness about your management of your emotions, your eating and dietary habits, and how you cope emotionally with stress. Your participation will help future researchers and clinicians better understand the associations between emotions and behavior.

Explanation & offer to answer questions: Emi Sumida or another one of Dr. Stein's research assistants has explained this research study to you and is prepared to answer any questions you may have If you have other questions or research-related problems, you may reach Professor Stein at 435-797- 3274 or Emi Sumida 435-770-0140.

Extra Cost(s): No financial costs to participants are associated with this study.

Compensation: You will receive extra points toward your final grade as an incentive for participating in this study. You will receive a notification that indicates your participation to this study when you return the screening packet to the research assistant. You can submit the notification to your instructor to receive the extra points.

Voluntary nature of participation and right to withdraw without consequence: Participation in research is entirely voluntary. You may refuse to participate or withdraw your consent at any time without consequence or loss of benefits. If you withdraw from the study, you will receive an amount of extra course credit that is consistent with the proportion of time you have spent in the overall study.

Confidentiality: Research records will be kept confidential, consistent with federal and state regulations. Only the investigator and researchers will have access to the data which

will be kept in a locked file cabinet in a locked room. You are asked to NOT place your name or any identifying information on any paper and pencil questionnaires you submit. All information that might identify you as a participant will be number-coded so that it cannot be associated with you personally to protect your privacy. It will be kept for approximately 1 year after the interview completion and then safely destroyed. The reason identifying information is kept for one year is to maintain access to the interviewees for further assessment of interrater reliability and other statistical issues. The audio recording will be kept in a locked room in a rocked file cabinet when not in use. We ask your permission to tape record any phone interviews you participate in to allow five research experts to code or rate the interview content. These recordings will be erased within one year of the completion of the study.

IRB Approval Statement: The Institutional Review Board for the protection of human participants at USU has approved this research study. If you have any pertinent questions or concerns about your rights or a research-related injury, you may contact the IRB Administrator at (435) 797-0567 or email irb@usu.edu. If you have a concern or complaint about the research and you would like to contact someone other than the research team, you may contact the IRB Administrator to obtain information or to offer input.

Copy of consent: You have been given two copies of this Informed Consent. Please sign both copies and retain one copy for your files.

Investigator Statement "I certify that the research study has been explained to the individual, by me or my research staff, and that the individual understands the nature and purpose, the possible risks and benefits associated with taking part in this research study. Any questions that have been raised have been answered."

Signature of PI & student or Co-PI

_____

Dr. David Stein,
Principal Investigator
(435) 797-3274

_____

Emi Sumida, M.S.,
Student Researcher
(435) 797-1460

_____

Sarah Stevens
Student Researcher

(435) 797-1460

(Provide signature lines for witness, translator, parent(s)/guardian and child assent if applicable).

Signature of Participant By signing below, I agree to participate.

_____ _____

Participant's signature Date

_____

Phone number

Appendix D:

Instructions

Please read the informed consent portion carefully, and sign the two copies on the signature lines.

Be sure to sign the consent form and provide your name and phone number so that we can contact your instructor to award you extra credit, and to alert you to future research opportunities

After you have signed the consent form, detach it and turn it in to the research assistant at this time. Then, take the survey packet home, complete it and bring it back to class***. The screening packet will be collected at the beginning of your next class period by a research assistant.*** Do not put your name or any identifying information on the answer sheets or the questionnaires

Appendix E:

Demographic Information Sheet

Please answer following questions

Age:

Gender:
1. Female
2. Male

Student Status:
1. Freshman
2. Sophomore
3. Junior
4. Senior
5. Graduate student

Ethnicity:
1. White/ Caucasian/European American
2. Black/African American
3. Native American/Alaskan Native
4. Hispanic/Latina/o
5. Asian American/Asian/ Pacific Islander
6. Other (_____)

Relationship Status:
1. single
2. married
3. committed relationship/partner
4. divorced/separated
5. widower

Religious Affiliation:
1. Catholic
2. Protestant
3. LDS
4. Buddhist
5. Islamic
6. Jewish
7. Other (_____

Appendix F:

Table 25, Optimal Model: New Emotion Factors and BDI

Table 25

Optimal Model: New Emotion Factors and BDI

Model	*R*	*R* Square	Adjusted *R* square	Std. error of the estimate	Change statistics *R*-square change	*F* change	*df*1	*df*2	Sig. *F*. change
1	.04a	.00	.00	1.24	.00	1.39	1	1050	.24
2	.57b	.33	.32	1.03	.32	100.51	5	1045	.00

Note. a Predictors: (constant), Gender, b Predictors: gender, DNaccept= Nonacceptance of Emotion Responses; DLEAwar= Lack of Emotion Awareness; DGiDir= Difficulties Engaging in Goal-Directed Behavior; DLEClrty= Lack of Emotion Clarity; and DLEAccees= Limited Access to Emotion Regulation Strategies.

Coefficients

Model		Unstandardized coefficients B	Std. Error	Standardized coefficients Beta	*t*	Sig.	Correlations Zero-order	Partial	Part
1	(Constant)	2.42	.06		39.69	.00			
	Gender	.09	.08	.04	1.18	.24	.04	.04	.04
2	(Constant)	-.22	.19		-1.16	.24			
	Gender	.09	.07	.04	1.42	.16	.04	.04	.04
	DNaccept	.01	.01	.04	1.25	.21	.38	.04	.03
	DGiDir	**.05**	**.01**	**.13**	**.39**	**.00**	**.39**	**.12**	**.10**
	DLEAwar	.01	.01	.05	1.69	.09	.16	.05	.04
	DLEAcces	**.07**	**.01**	**.32**	**8.61**	**.00**	**.53**	**.26**	**.22**
	DLEClrty	.06	.01	.18	5.44	.000	.43	.17	.14

Note. Dependent variable: Beck T, Bolded subscales retain testing in final mode.

Appendix G:

Table 26, New Factors Derived From Consolidation

of Three Emotion Regulation Inventories

Table 26

New Factors Dervied from Consolidation of Three Emotioin Regulation Inventories

Measure	item Number	Question
Factor 1: Difficulty Identifying or Differentiating Feeling		
TAS-20	1	I am often confused about what emotion I am feeling
TAS-20	3	It is difficult for me to find the right words for my feelings
TAS-20	6	When I am upset, I don't know if I am sad, frightened or angry
TAS-20	9	I have feelings that I can't quite identify
TAS-20	11	I find it hard to describe how I feel about people
TAS-20	12	People tell me to describe my feelings more
TAS-20	13	I don't know what is going on inside me
DERS	1(R)	I am clear about my feelings
DERS	4	I have no idea how I am feeling
DERS	5	I have difficulty making sense out of my feelings
DERS	7(R)	I know exactly how I am feeling
DERS	9	I am confused about how I feel
Factor 2: Loss of Control Over Behavior and Perceived Helplessness		
TAS-20	14	I often don't know why I am angry
CERQ	8	I often think that what I have experienced is much worse than want others have experienced
DERS	3	I pay attention to how I feel
DERS	14	When I'm upset, I become out of control
DERS	19	When I'm upset, I feel out of control
DERS	27	When I'm upset, I have difficulty controlling my behaviors
DERS	32	When I'm upset, I lose control over my behavior
DERS	15	When I'm upset, I believe that I will remain that way for a long time
DERS	16	When I'm upset, I believe that I'll end up feeling very depressed
DERS	28	When I'm upset, I believe that there is nothing I can do to make myself feel better
DERS	30	When I'm upset, I start to feel very bad about myself
DERS	31	When I'm upset, I believe that wallowing in it is all I can do
DERS	35	When I'm upset, I takes me a long time to feel better
DERS	36	When I'm upset, my emotions feel overwhelming
Factor 3: Active Copying and Positive Reframing of Problem		
CERQ	14	I think about how I can best cope with the situation
CERQ	23	I think about how to change the situation
CERQ	32	I thin about a plan of what I can do best
CERQ	6	I think I can learn something from the situation
CERQ	15	I think that I can become a stronger persona as a result of what has happened
CERQ	24	I think that the situation also has its positive sides
CERQ	33	I look for the positive sides to the matter
CERQ	7	I think that it all could have been much worse
CERQ	16	I think that other people go through much worse experienced

CERQ	25	I think that it hasn't been too bad compared to other things
CERQ	34	I tell myself that there ar4e worse things in life
DERS	22(R)	When I'm upset, I know that I can find a way to eventually feel better

Factor 4: Contemplation and Self Reflection

TAS	10(R)	Being in touch with emotions is essential
CERQ	3	I often think about how I feel about what I have experienced
CERQ	21	I want to understand why I feel the way I do about what I have expected
DERS	2(R)	I pay attention to how I feel
DERS	6(R)	I am attentive to my feelings
DERS	8(R)	I am confused about how I feel
DERS	10(R)	When I'm upset, I acknowledge my emotions
DERS	17(R)	When I'm upset, I believe that my feelings are valid and important
DERS	34(R)	When I'm upset, I take time to figure out that I'm really feeling

Factor 5: Self-Derogation and Castigation

DERS	11	When I'm upset, I become angry with myself for feeling that way
DERS	12	When I'm upset, I become embarrassed for feeling that way
DERS	21	When I'm upset, I feel ashamed with myself for feeling that way
DERS	23	When I'm upset, I feel like I am weak
DERS	25	When I'm upset, I feel guilty for feeling that way
DERS	29	When I'm upset, I become irritated with myself for feeling that way
DERS	30	When I'm upset, I start to feel very bad about myself

Factor 6: Assuming, Accepting Blame or Responsibility

CERQ	1	I feel that I am the one to blame for it
CERQ	10	I feel that I am the one who is responsible for what has happened
CERQ	19	I think about the mistakes I have made in this matter
CERQ	28	I think that basically the cause must lies within myself
CERQ	2	I think that I have to accept that this has happened
CERQ	11	I think that I have to accept the situation
CERQ	20	I think that I cannot change anything about it
CERQ	29	I think that I must learn to live with it
CERQ	12	I am preoccupied with that I have and feel about what I have experienced
CERQ	30	I dwell upon the feelings the situation has evoked in me
CERQ	17	I keep thinking about how terrible it is about I have experienced

Factor 7: Externalization of Blame

CERQ	9	I feel that others are to blame for it
CERQ	18	I feel that others are responsible for what has happened
CERQ	27	I think about the mistakes others have made in this matter
CERQ	36	I feel that basically the cause lies with others

Factor 8: Disruption of Thoughts and Action (When Upset)

DERS	18	When I'm upset, I have difficulty focusing on other things
DERS	20(R)	When I'm upset, I can still get things done
DERS	26	When I'm upset, I have difficulty concentrating
DERS	33	When I'm upset, I have difficulty thinking about anything else
DERS	36	When I'm upset, my emotions feel overwhelming

Factor 9: Focus on Pleasant Thoughts

CERQ	4	I think of nicer things that what I have experienced
CERQ	13	I think of pleasant things that have nothing to do with it
CERQ	22	I think of something nice instead of what has happened
CERQ	31	I think about pleasant experiences
CERQ	5	I think of what I can do best
CERQ	32	I thin about a plan of what I can do best

Appendix H:

Table 27, Items Loading on Each Factor are in Boldface

Table 27

Items Loading on Each Factor Are in Boldface

	1	2	3	4	5	6	7	8	9
TAS1	.73	.10	-.06	-.06	.12	.08	-.01	.14	-.06
TAS3	.71	.13	-.05	-.03	.12	.12	-.02	.-10	-.07
TAS6	.57	.22	-.08	-.04	.20	.12	-.07	.05	.01
TAS9	.72	.74	.18	-.07	-.04	.08	.11	.08	.01
TAS13	.69	.22	-.09	-.07	.14	.16	.03	.01	.03
TAS14	.46	.34	-.16	-.02	.20	.10	.04	.02	.07
TAS2	.25	.14	-.13	.03	.11	.10	.03	-.04	.12
RTAS4	.43	.03	-.10	.35	.08	.01	.10	.09	-.08
TAS11	.55	.06	-.03	.10	.10	.08	.11	.07	.02
TAS12	.54	.08	.05	.12	.02	.08	.05	-.03	-02
TAS17	.40	-.01	.00	.17	.10	.13	.05	.01	-.11
RTAS5	-.22	-.09	-.09	.34	.02	-.20	.09	-.02	.09
TAS8	.12	.08	.03	.07	-.02	.02	-.02	-.09	.05
TAS20	.12	-.12	.12	.01	.04	.02	.03	.05	.19
RTAS10	.00	.06	-.12	.66	.03	-.08	.07	-.06	-.07
TAS15	.17	.01	.09	.15	.02	.06	.13	-.00	.02
TAS16	.02	-.04	.14	-.03	.04	.08	.09	.09	.13
RTAS18	-.01	.08	-.17	.43	.04	-.12	.15	-.04	-.05
TAS19	.04	-.08	.16	-.68	-.04	.10	-.05	.01	.08
CERQ1	.21	.19	-.11	-.04	.32	.51	-.02	-.01	-.06
CERQ10	.13	.12	.03	-.03	.25	.59	-.03	-.06	.10
CERQ19	.12	.07	.08	-.18	.20	.58	.17	.15	-.04
CERQ28	.14	.16	-.04	-.02	.28	.61	.04	-.05	.04
CERQ2	.04	-.03	.21	-.18	-003	.57	-.07	.04	-.03

CERQ11	-.04	.02	.36	-.12	-.09	.61	-.08	.08	-.04
CERQ20	.13	.14	-.03	.010	.11	.44	.17	.08	-.04
CERQ29	.04	.03	.25	-.04	.05	.59	.10	.07	.01
CERQ3	09	-.01	.22	-.55	-.02	.29	-.06	.02	.04
CERQ12	.23	.15	.02	-.27	.14	.48	.12	.17	.18
CERQ21	.29	-.01	.19	-.45	.08	.12	.07	.05	.12
CERQ30	.28	.18	-.09	-.24	.16	.48	.29	.17	.05
CERQ4	-.02	.11	.20	-.12	-.01	-.14	.01	.01	.51
CERQ13	.01	.06	.22	-.05	.05	-.01	.03	-.07	.74
CERQ22	.05	1.223E-5	.25	-.04	.06	-.02	.02	-.01	.72
CERQ31	-.05	-.11	.43	-.13	.01	-.15	-.03	.01	.53
CERQ5	-.20	-.01	.53	-.21	-.11	.04	-.01	-.09	.33
CERQ14	-.13	-.08	.57	-.36	-.05	.17	-.12	-.01	.19
CERQ23	.02	.00	.47	-.25	.03	.16	.11	.10	.17
CERQ32	-.09	-.06	.61	-.28	-.03	.04	-.04	-.02	.24
CERQ6	-.09	-.08	.66	-.21	-.08	.13	-.10	-.08	.04
CERQ15	-.05	-.13	.68	-.26	-.09	.14	-.10	.02	.08
CERQ24	-.06	-.17	.73	-.12	.00	-.03	-.01	-.03	.16
CERQ33	-.10	-.14	.76	-.20	-.03	-.07	-.03	-.02	.18
CERQ7	-.12	.01	.64	-.05	.03	.05	-.03	.01	.06
CERQ16	.03	-.05	.56	-.14	.02	-.03	.04	-.02	-.12
CERQ25	-.02	-.13	.67	-.07	.07	-.03	-.00	-.10	.05
CERQ34	.03	-.04	.70	-.15	.02	.03	.03	-.01	.00
CERQ8	.16	.29	-.04	.08	.01	.34	.22	.01	.21
CERQ17	.12	.31	-.16	-.11	.10	.47	.35	.13	.02
CERQ26	.10	.28	-.19	.16	.05	.24	.33	.01	.30

CERQ35	.13	.31	-.21	-.08	.20	.42	.33	13	-.00
CERQ9	.03	.17	-.07	-.03	.12	.05	.74	.03	.01
CERQ18	.04	.07	-.07	-.05	.06	.06	.77	.10	.01
CERQ27	.14	.09	.11	-.04	.07	.19	.63	.07	-.01
CERQ36	.09	.20	-.02	-.04	.03	.05	.77	-.00	.05
DERS11	.20	.27	-.01	-.01	.72	.16	.04	.07	.06
DERS12	021	.16	05	.01	.74	.12	.05	.12	.08
DERS21	.19	.24	.01	.05	.79	.15	.01	.07	.06
DERS23	.21	.26	-.05	-.04	.60	.17	.04	.21	.03
DERS25	.17	.20	.03	.05	78	.16	.05	.08	.01
DERS29	.21	.29	.03	.06	.72	.17	.08	.13	-.07
DERS13	.07	.26	.00	-.10	.26	.15	.15	.72	.03
DERS18	.17	.35	.01	-.10	.19	.14	.14	.70	-.05
DERS20	-.08	-.17	.24	-.16	-.01	.34	.09	-.68	-.03
DERS26	.18	.32	.06	-.07	.26	.13	.11	.70	-.05
DERS33	.16	.47	-.04	-.10	.20	.21	.12	.57	-.13
DERS3	.36	.54	-.13	-.03	.14	.14	.11	.02	.10
DERS14	.12	.77	-.03	.08	.11	.02	.10	.05	.10
DERS19	.13	.77	-.07	.09	.15	.01	.07	.14	.07
RDERS24	.16	.38	-.24	.31	.05	-.05	-.11	.24	.15
DERS27	.14	.74	-.05	.08	.15	.06	.04	.15	.04
DERS32	.14	.89	-.03	.12	.14	.01	.09	.06	.03
RDERS2	.23	.09	-.13	.67	-.04	.05	-.13	.04	-.01
RDERS6	.25	.06	-.02	.67	-.03	-.02	-.11	-.07	-.02
RDERS8	.18	.10	-.24	.67	.02	.01	-.07	-.07	-01
RDERS10	.22	-.04	-.23	.60	-.03	-.06	-.07	-.02	.05
RDERS17	.03	-.15	-.15	.51	.07	-.01	-.21	-.05	.04
RDERS34	-.04	.06	-.22	.55	-.10	-.02	-.03	.01	-.09

DERS15	.17	.68	-.12	.43	.18	.18	.11	.10	-.04
DERS16	.24	.56	-.18	.01	.30	.20	.05	.16	-.06
RDERS22	.15	.33	-.45	.33	-.05	.08	-.02	.16	-.18
DERS28	.17	.61	-.04	.10	.19	.13	.10	.09	-.05
DERS30	.26	.42	-.11	-.03	.54	.19	.06	.16	.00
DERS31	.25	.58	-.17	-.04	.20	.15	.14	.14	-.07
DERS35	.26	.54	-.08	-.04	.17	.18	.16	.24	-.05
DERS36	.35	.54	.01	-.10	.25	.20	.10	.30	-.04
RDERS1	.53	.09	-.13	.44	.04	.02	-.01	.12	-.01
DERS4	.61	.22	-.04	.29	.12	.04	.12	.05	-.01
DERS5	.09	.21	-.01	.14	.16	.11	.15	.05	4.544E-6
RDERS7	.58	.13	-.18	.46	.08	-.03	-.05	.10	-.10
DERS9	.66	.23	.02	.09	.20	.07	.12	08	-.10

Note. Items loading on each factor are in boldface. When item has similar factor loading more than one factor (less than .05), it was assigned to the factor it most logically related to.

Curriculum Vitae

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(213) 740-7711

EDUCATION

08/05- Present	Ph.D. Candidate (degree expected- Aug 2010) Combined Clinical/Counseling/School Psychology, (APA accredited) Utah State University Doctoral dissertation: The Relation between Emotion Regulation Problems and Clinical Depression, Chair: David Stein, Ph.D.
2003	Master's of Science, Counseling, Educational Psychology, University of Utah Master Thesis**:** Psychopathology in adolescents' relationships. Chair: Christina A. Rodriguez
1998	BS, University of Utah, Psychology
1994	BA, Brigham Young University, International Relations

CLINICAL EXPERIENCE

08/10—Present	Post-Doctoral Fellow, Student Park Health Services, Counseling Services, Rotation: College Mental Health and Disability Services, University of Southern California, Los Angeles, California • Conduct intake interviews and individual counseling • Supervised by Dr. Shing-Shiong Chang, licensed psychologists

08/09 – 07/10 **Psychology Intern, Pre-doctoral Internship (APA accredited),** Counseling and Psychological Services, Student Health Services Rotation, University of California, San Diego, La Jolla, California

• Conduct intake interviews, individual counseling, and psychological testing
• Co-facilitated groups and workshops
  - Free 2 B Me: (DBT-based group therapy for disordered eating)
  - Anxiety management group
  - Insomnia workshop
  - Smoking cessation workshop
• Conduct risk assessments and crisis interventions for urgent care services
• Provide outreach and consultation services to Student Affairs, Student Health Services, Academic Advising, and Residential Life.
• Develop multidisciplinary psycho-educational workshops at the Student Health Services (e.g., Smoking cessation workshop and Biofeedback workshop)
• Attend internship seminars (e.g., multicultural and social justice issues, group therapy, self-psychology, and urgent care and crisis interventions)
• 1950 total hours, 643 direct client service hours, supervised by Dr. Rhonda Hackshaw and Dr. Rina Schul, licensed psychologists

08/08 – 05/09 **Student Therapist**, **graduate assistantship,** Counseling and Psychological Services, Utah State University, Logan, Utah

• Conducted intake interviews and individual counseling
• Co-facilitated group and workshop
  - Stress and anxiety management
  - Mindfulness
• Engaged in consultation, outreach, crisis intervention, and provision of supervision
• 213 total hours, 78 direct client service hours, supervised by Dr. David Bush and Dr. Mary Doty, licensed psychologists

07/07 – 07/08 **School Psychology Intern, School Psychology Internship,** Mountain Shadows Elementary School, Jordan School District, West Jordan, Utah

• Conducted individual and group counseling
• Conducted IEP meetings
• Conducted Special education eligibility evaluation, functional assessment
• Carried out Intellectual and academic assessments
• Provided consultation to teachers and parents
• 931 total hours, 465 direct client service hours, supervised by Dr. Joann Galloway, licensed psychologist

09/07 –05/08 **Student Therapist**, **Counseling Practicum,** Counseling and Psychological Services, Utah State University, Logan, Utah

• Conducted intake interviews, individual counseling, and cognitive assessment

• 311 total hours, 83 direct client service hours, 37 supervision hours supervised by Dr. Tom Berry, and Dr. David Bush, licensed psychologists

09/06 – 08/05 **Student Therapist**, **School Psychology Practicum,** Brighton High School, Jordan School District, Salt Lake City, Utah
• Engaged in similar duties as school psychology internship which listed above
• Facilitated groups (social skills for Autistic students, peer relationships, academic and school participation)
• 298 total hours, 104 direct client service hours, supervised by Dr, Lane Valum, licensed psychologist

08/05 – 08/07 **Student Therapist**, **Clinical Psychology Practicum,** Community Psychology Clinic, Utah State University, Logan, Utah
• Provided intake interview and individual therapy
• 470total hours, 108 direct service hours, supervised by Dr. Sue Crowley and Dr. Scott DeBerard, licensed psychologists

09/06 – 05/07 **Student Therapist**, The Cognitive Behavior Therapy for Diabetic patients for Weight Loss by Kathy Wickersham, Utah State University, Logan, Utah
• Conducted weekly cognitive behavioral therapy for weight loss
• 98 total hours, 34 direct service hours, supervised by Dr. David Stein, licensed psychologist

08/01 – 07/04 **Student Therapist** (08/01-07/03) and **Substance Abuse Therapist Intern** (09/03-07/04), Cornerstone Counseling Center, Adult Substance Abuse Treatment Team, Intensive Outpatient and Standard Outpatient programs, Salt Lake City, Utah
• Provided Individual therapy, relapse prevention, and mental health care 691 hrs
• Carried out substance abuse and mental health intake evaluation, 258 hrs.
• Facilitated Group therapy, relapse prevention, mental health, and skill building group, 829 hrs.
- Dialectical Behavioral Therapy for Borderline Personality Disorder
- Standard and intensive outpatient program for substance abuse treatment
- Psycho-educational Skills group for substance abuse treatment
- Mothers' and Children's substance abuse group, including parenting skills
- The ADC and Oxbow Women's Jail groups
• Provided client advocacy to outside agencies

• 3678 hours total. 1732 direct service hours for practicum, internship, and full-time employment, supervised by Dr. Tina Rich and Dr. Colleen Sandor, licensed psychologists and L.J. Gillen, LPC.

CONTINUING PROFESSIONAL TRAINING

01/10 • **Attendee,** Responding to the Need of Diverse Communities: Developing Individual and Systemic Cultural Responses by Miguel E. Gallardo, PsyD, University of California, San Diego, La Jolla, California

12/09 • **Attendee,** Engaging Men in the Process of Psychotherapy University of San Diego, San Diego, California

10/09 • **Attendee,** Assessment of Risk to Self or Others in University Students: Strategies, policies and Perils by Steve Sprinkle, Ph.D., University of San Diego, San Diego, California

09/09 • **Attendee,** Suicide in San Diego County: Life Cycle, Ethnic and Vulnerable Group Trends, Community Health Improvement Partners, San Diego, California

04/09 • **Attendee,** Acceptance and Commitment Therapy (ACT) by Steven C. Hayes Ph.D., Utah State University Psychology Department, Logan, Utah.

04/09 • **Attendee,** An introduction to ACT: Acceptance and Commitment Therapy, by Steven C. Hayes, Ph.D., Utah State University Counseling Center, Logan, Utah

10/08 • **Attendee,** Utah University and College Counseling Centers Conferences Park City, Utah
- Veterans on Campus: Welcome Them, Supporting Them, and Meeting their Clinical Needs by Steve Allen, Ph. D., and Jennifer Romesser, Psy.D.
- Addressing Men's Issues Through Group Therapy by Christian Winner, Ph.D., Kirk Dougher, Ph.D., Jane Lawson, Ph.D., and Dave Bush, Ph. D.
- Counseling Center Diversity Initiatives: Evolving Structures for Enhancing Structures for Enhancing Training, Practice and Campus Collaborations by Lynne Bennion, Ph.D., James MacArthur, Ph,D., Karen Cone-Uemura, Ph.D., and Lauren Weitzman, Ph.D

10/08 • **Attendee,** WAIS-IV training by Amy Dilworth Gabel, Ph.D. Utah Association of School Psychologists, Salt Lake City, Utah

04/07 • **Attendee,** Motivational Interviewing by Dr. Carolina Yahane, Utah State University, Logan, Utah

12/04 • **Attendee,** Coping Styles of Children with Special Needs Observation, Assessment & Intervention, children's Center, Ogden, Utah

11/04 • **Attendee,** Critical Issues Facing Children & Adolescents, Salt Lake City, Utah
- Meltdowns, Aggression & Behavior Management for Autism & Asperger Disorder by Dr. Judith S. Miller
- Bipolar Disorder in Childhood & Adolescence: Separating Facts from Controversy by Doug Gray, MD.
- Integrated Treatment for Children & Adolescents with Developmental Disabilities Who Have Been Traumatized by Dr. Ann Taverne and panel
- Emotional Intelligence – The critical Link to Resiliency & Hardiness by Lana Stohl, MBA, LCSW

03/04 • **Attendee,** ASAM Criteria Training: Patient Placement Criteria for the Treatment of Substance Use Disorders by Dr. David Mee-Lee, Salt Lake City, Utah

10/03 • **Attendee,** Personality Disorder Training by Dr. John Masterson, Salt Lake City, Utah

03/01 • **Attendee,** A Gathering of Voice: Delivering Services to a Multilingual Society, Salt Lake City, Utah
- *Training Psychologist for a Multicultural-Multilingual Practice* by Dr. Cynthia de las Fuentes, Ph.D.
- *Mental Health Issues* by Ming Wang, LCSW
- *Practical Suggestions to Facilitate Assessment and Service Delivery* by Dr. Robert Rhodes

06/00 • **Attendee,** Critical Incident Stress Management, by Dr. Brian Riedesel, Salt Lake City, Utah

PROFESSIONAL AFFILIATIONS

- American Psychological Association, Student Affiliate
- Utah Association of School Psychologists, Student Affiliate

PUBLICATIONS

Florsheim, P., Sumida, E., McCann, C., Winstanley, M., Fukui, R., Seefeldt, T., & Moor, D. (2003). The transition to parenthood among young African American and Latino couples: Relational predictors of risk for parental dysfunction. *Journal of Family Psychology, 17(1),* 65-79

Florsheim, P., Moore, D., Zollinger, L., MacDonald, J., & Sumida, E. (1999). Adolescent fatherhood in developmental perspective: Does antisocial behavior predict problems in parental functioning? *Applied Developmental Science. 3(3),* 178-191

PRESENTATIONS

Sumida, E,. Rodriguez, C., Kircher, J., & Florsheim. P. (2008). The role of psychopathology in the quality of relationships. Poster session presented at the annual meeting of the Rocky Mountain Psychology Association, Boise

Seefeldt, T., & Sumida, E. (2002). The effects of couple relationship status and quality on parental functioning in adolescent mothers and fathers. Poster session presented at he annual meeting of the Society for Research on Adolescent Conference, New Orleans.

RESEARCH EXPERIENCE

08/05 – 6/07 **Research Assistant,** The Eating Disorders study by David M. Stein, Utah State University
- Carried out data management involving 300 subjects, including data entry administration and analysis for demographic data as well as self-report measures
- Listened to 80 audio tapes to check for interrater reliability

09/02 –12/02 **Research Assistant**, The Representation Study by Russ Van Vleet, MSW, University of Utah
- Composed IRB application and literature review that was related to juvenile drug court
- Carried out data management

09/96 –08/01 **Research Lab Manager,** The Cross Ethnic Study of Adolescent Parents, by Dr. Paul Florsheim, University of Utah
- Conducted data management involving 500 subjects, including data entry administration and analysis

01/ 01 –05/01 **Research Assistant**, The Religiosity Study by Dr. William Hill, University of Utah
- Assisted in data collection

09/ 98 –01/99 **Research Assistant,** The Study of Job Evaluation by Dr. Carol Sansone, University of Utah
• Carried out data entry and analysis

03/96 – 02/97 **Research Assistant,** The Study of Interpersonal Personality Battery Project by Dr. William Henry, University of Utah
• Completed data entry of demographic and depression diagnosis surveys for 450 subjects

TEACHING EXPERIENCE

Spring 02 **Teaching Assistant**, University of Utah, EDPS 6210: Counseling skills
• Assisted professor in preparing the class activities
• Gave lecture in basic counseling skills

Summer 01 **Teaching Assistant,** University of Utah, EDPS 6330: Career counseling and assessment
• Assisted professor in preparing the class activities and group discussions for diversity and career counseling

Summer 90, 91, 92 **Teaching,** The Learn Space, a private education organization, Hiroshima, Japan
• Taught English to 300 junior high school students

THER WORK EXPERIENCE

05/98 – 07/98 **Legal Dept. Assistant,** Shoko Fund, Tokyo, Japan
• Created legal registration files for 500 real estate properties

04/97 – 03/98 **Classroom Assistant**, Early Childhood Education Center, University of Utah,
• Supervised the classrooms of fifteen 3-6 year old children
• Assisted teachers in development of Creative Curriculum with a focus on children's socio-emotional, cognitive, and physical development
• Facilitated children in learning and accomplishing daily tasks

04/93 – 12/95 **Import Goods Planner & Research Assistant,** Juken Sangyo Co. International Investment Department, Hatsukaichi, Japan
• Managed import logs for Juken Nissho New Zealand Co., account
• Worked as interpreter at international meetings and coordinated trips for foreign visitors
• Translated and compiled 800 pages of specifications
• Established a bar-code system for inventory
• Completed a consumer research project

PERSONAL SKILLS

Language Skills • Fluent in Japanese and English