

DEVELOPMENT AND VALIDATION OF A SELF-REPORT
COGNITIVE APPRAISAL SCALE

by

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(Under the Direction of Charles E. Lance)

ABSTRACT

The purpose of this study was to develop a self-report cognitive appraisal scale and validate it according to the stringent psychometric criteria found in the Industrial/Organizational literature. In Study I, a 65 item scale was adapted from items used by Smith and Ellsworth (1985) to measure cognitive appraisal, but with several modifications. Data were collected on 404 participants and were analyzed with exploratory factor analysis using principal component analysis. A parallel analysis run prior to the PCA indicated a nine factor solution. In Study II, data were collected on 803 participants using a revised version of the scale. An exploratory factor analysis using PA and PCA was performed and a ten factor solution emerged. Using LISREL 8.54, the convergent and discriminant validity of the scale was assessed. The results indicated a general pattern of significant correlations in the predicted direction among the appraisal scale factors and related constructs, which begins to establish the convergent validity of the scale. In addition, the comparisons between the restricted and unrestricted models for the appraisal scale factors and the constructs which were conceptually similar but theoretically distinct indicated that the appraisal scale was not redundant with these existing scales. This establishes the discriminant validity of the appraisal scale. A series of multiple regressions was

run to investigate the predictive patterns of relationships between the appraisal dimensions and emotions. The general discussion includes the main conclusions of the study, the theoretical and applied implications as well as the limitations of the study, and directions for future research.

INDEX WORDS: Cognitive appraisal, Emotion, Psychometrics, Scale development, Construct validation, Convergent validity, Discriminant validity

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DEDICATION

This work is dedicated to Anne, Plott, Pilgram, Sister, and B.K. Thank you for your generosity, kindness, and support.

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CHAPTER1

INTRODUCTION

Investigations into the structure of emotion, or affect, can be separated into two separate camps. The most prominent one began with Russell (1980), who proposed and provided evidence for a circumplex model of affect, which was composed of two primary dimensions: arousal and activation. These dimensions were correlated with one another. Another group of researchers, Watson and Tellegen (1985) responded with an alternative model of affect, this time structured along the bipolar dimension of valence: positive and negative affect, which were shown to be independent of each other. Over the past twenty-three years, the debate between these two research groups has continued over two points: is affective space bipolar and are the dimensions correlated or independent? A recent paper by Watson, Wiese, Vaidya, and Tellegen (1999), reexamined the models proposed at the outset of this debate to come to a conclusion regarding these questions. They found that affect remained divided by two independent dimensions: positive activation and negative activation, thus combining Russell's arousal-activation circumplex into the same category. What is salient about the current state of this research is that it remains focused on valence (positive/negative) as the most meaningful way to structure emotions. As a result, researchers who explore the effects of emotions on other processes (e.g., judgment, decision-making, stereotyping) rely on valence to characterize the emotions of their participants, to measure their dependent variables, and to explain the effects of emotions on their independent variables (Bower, 1981; Isen, Shaker, Clark, & Karp, 1978; Mackie & Worth, 1991; Schwarz & Bless, 1991; Schwarz & Clore, 1983). For example, the

results of a valence-based study might report the results that “People who are happy make good decisions;” People who are sad make slower decisions.” It is very cut and dry: You are either happy or sad, and one type of feeling has one effect, the other has a different one.

Recent research on emotions is shifting away from the valence focus of the last two decades. Work by Martin (for review Martin, 2000, 2001) indicates that it is not valence alone that makes individuals respond in a particular way to a situation, but rather, it is the context of the situation they are in that determines the emotional response someone will have. The research of Green and Sedikides (1999) also examines emotion independent of valence and shows that affect is characterized by an affective orientation dimension. Some emotions, such as anger and thrill, are social affective states that orient the individual outward, whereas as others, such as sadness and contentment, are reflective states which focus the individual inward. Research by Lerner and Keltner (2000) shows that fearful people made pessimistic judgments about future events whereas angry people made optimistic judgments, providing support for a risk-appraisal dimension of emotion. Another study considers the uncertainty/certainty dimension of emotion, finding that certainty-associated emotions, such as disgust, result in more heuristic processing, and uncertainty-associated emotions, such as fear, result in more systematic processing (Tiedens & Linton, 2001).

The notion that emotions can be explained by multiple dimensions rather than by valence alone is strongly supported in the research and theory on cognitive appraisal (Roseman, 1984; Scherer, 1984; Smith & Ellsworth, 1985). According to cognitive appraisal theory, emotion is generated by primary and secondary appraisals. A primary appraisal is the individual’s initial evaluation of the harm or benefit of a situation to their well being. A secondary appraisal is their evaluation of their coping response to the situation based on their primary appraisal (Smith &

Lazarus, 1990). Primary and secondary appraisals can be grouped into basic core relational themes that are devised of a combination of these appraisals. Given a certain situation, an individual will engage in a set of appraisals from which certain emotions will result (Lazarus & Smith, 1988; Smith & Lazarus, 1993). Responding to criticism that somehow this appraisal process is slow and laborious, Smith and Kirby (2000, 2001), have revised the theory to include multiple, parallel appraisal processes that have distinct cognitive mechanisms. A primary component of the revised model is the presence of appraisal detectors, which constantly monitor and respond to appraisal information in the environment. An individual's emotional state results from the appraisal detectors, not because they are responsible for computing the actual appraisal, but because they capture the appraisal information that is generated by the individual's modes of processing. Individuals have three modes of processing. The first is the processing of perceptual stimuli, such as pain sensations or facial expressions. The second is associative processing, which is performed quickly, automatically, based upon memory, and involves priming and spreading activation. The third is processing the content of focal awareness, and this information is passed on to the appraisal detectors via reasoning. This is a slower process than associative processing and provides limited information.

Evidence shows that cognitive appraisals can lead to distinct facial expressions, autonomic activity (for review Smith, 1989; Smith & Kirby, 2001), and action tendencies (Frijda, 1987). More importantly, similarly valenced emotions can be differentiated along different dimensions of cognitive appraisals (Ellsworth & Smith, 1988a, 1988b), which indicates that emotions are distinguished by distinctive patterns that bipolar scales based on valence fail to capture. In addition, emotions are mutable and changing depending on the situation in which they occur and the appraisals that individuals make within those varying situations (Folkman &

Lazarus, 1985; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Smith & Ellsworth, 1987). Bipolar scales measure emotions as if they are static and because of their valence, emotions when measured with these scales are considered to be interchangeable. That is, if one emotion is felt in a situation, then the other one will be as well (Lazarus, 1991). However, appraisal theorists have shown that given one situation, an individual's set of appraisals might only elicit anger (Smith & Kirby, 2004) whereas in a wholly different situation, an individual will have different set of appraisals and annoyance might be felt. Situations have relational meanings for us and the emotions that result from our interactions with the environment cannot be accurately assessed with laundry lists of similarly valenced emotions that fail to take this information into account.

As a result of the research on cognitive appraisal and emotion, several dimensions of cognitive appraisal have consistently appeared to predict a range of emotions (Ellsworth & Smith, 1988a, 1988b; Frijda, 1987; Manstead & Tetlock, 1989; Roseman, 1991; Roseman, Spindel, & Jose, 1990; Smith, 1989; Smith & Ellsworth, 1985, 1987; Smith & Lazarus, 1993; Smith & Pope, 1992; Tesser, 1990). Among cognitive appraisal theorists, there is debate regarding the exact nature and number of cognitive appraisal dimensions (Frijda, Kupiers, & ter Shure, 1989; Roseman, Anotniou, & Jose, 1996; Scherer, 1993; Smith & Kirby, 2001). An examination of the various scales that researchers have used to measure cognitive appraisal suggests the possibility that a self-report scale might be developed from this work that might then be used as a more accurate measure of emotion than the currently existing bipolar scales of emotion measurement. While Watson et al. (1999) indicate in their research that there are at least two basic dimensions of affect: positive activation and negative activation, they admit, however, that alternative conceptualizations of the structure of emotion may complement what their

research has produced, particularly models emphasizing the dimensionality of discrete emotions. Creating a self-report cognitive appraisal scale might also eliminate the current confound problem that occurs when measures based solely on valence are used. For example, a recent Study investigated the effects of emotion on information processing. Instead of solely using valence to distinguish between emotions, the cognitive appraisal dimension of certainty and uncertainty was also incorporated into the study. Results showed that the certainty-uncertainty dimension was related to differences in heuristic and systematic processing but valence was not (Tiedens & Linton, 2001). A self-report measure based on the cognitive appraisal dimensions of discrete emotions will allow researchers to improve their understanding of the complexities of the relationships between emotions and constructs of interest in areas including industrial/organizational, social, and cognitive psychology.

Current Study

There are several scales currently being used to measure cognitive appraisal (Frijda, et al., 1989; Roseman et al., 1996; Smith & Ellsworth, 1985). The appraisal scales used by Smith and his colleagues (see Appendices A and B for the scale dimensions and items) have been subjected to data reduction techniques several times (Ellsworth & Smith, 1988a; Smith & Ellsworth, 1985, 1987) and these analyses have produced nearly the same cognitive appraisal dimensions each time (see Table 1). Specifically, the Pleasantness and Attentional Activity, Anticipated Effort, and Certainty dimensions appeared across all factor solutions. The Obstacle and Situational Control dimensions appeared across three of the solutions. The Importance dimension appeared in two solutions. The Difficulty, Predictability, and Legitimacy each appeared in one solution. The Agency dimension appeared in all the solutions, but in Smith and Ellsworth (1987), it contained the sub-facet of *situational control*, and in Ellsworth and Smith

(1988a), it contained the sub-facets of *cheated* and *fair*. In addition, although the Pleasantness dimension consistently occurred across all four factor solutions, there were differences between two of these four dimensions in terms of the underlying sub-facets. In the Smith and Ellsworth (1985) PCA solution, the sub-facets for the Pleasantness dimension were *pleasant*, *enjoy*, *obstacle*, *problem*, *cheated*, and *fair*. In the Smith and Ellsworth (1985) SINDSCAL solution, the sub-facets were *pleasant*, *enjoy*, *cheated*, and *fair*. In the Smith and Ellsworth (1987) and Ellsworth and Smith (1988a), the sub-facets were *pleasant* and *enjoy*.

There are, however, several psychometric problems with these scales used by Smith and his colleagues to measure cognitive appraisal. The primary issue is that the scales have single item measures of the sub-facets of the appraisal dimensions. To reliably measure a complex construct it is necessary to have multiple items for each factor (Althausen & Heberlein, 1970; Borkenau & Ostendorf, 1990; Campbell & Fiske, 1959). The scale currently used by Smith and his colleagues, after data reduction, produces approximately nine cognitive appraisal dimensions (Ellsworth & Smith, 1988a, 1988b). In one variation of the scale, the number of items measuring these dimensions ranged from one to six (Ellsworth & Smith, 1988a). However, even when a dimension is measured by multiple items, such as human agency, the single item facets are used in analyses of the appraisals. For example, Ellsworth & Smith (1988a) performed a series of contrasts to investigate the emotions associated with appraisals along the various dimensions. In comparing self-agency versus other-agency, the means of the two sub-facets of *self-responsibility* and *self-control* were combined into the appraisal of self-agency, and the means of the two sub-facets of *other-responsibility* and *other-control* were combined into the appraisal of other-agency. In order to create these two sub-dimensions of the human agency appraisal using the sub-facets, one must make the assumption that the single item measures of the sub-facets are

reliably measuring those constructs. Complex constructs, such as personality, are measured with multiple items. For example, in scales that capture broad personality dimensions, such as the NEO-PI, when sub-facets of those dimensions are measured, multiple items are used.

The scale used by Ellsworth and Smith (1988b) mostly has multiple items per dimension, ranging from two to four (see Appendix C), but single items are still used to measure the sub-facets. The dimensions recovered on this scale after data reduction techniques differed from previous studies (Ellsworth & Smith, 1988a; Smith & Ellsworth, 1985, 1987). The differences in the factor structure were dependent on which sub-facets created the dimensions. Similarly, the scales used by Smith and Ellsworth (1985), Smith and Ellsworth (1987), and Ellsworth and Smith (1988a) all produced factor solutions that were dependent on how the sub-facets loaded on each factor. Because the sub-facets play a critical role in determining the final factor solution, which ultimately means providing the cognitive appraisals measured by the scale, it seems necessary that these sub-facets be measured by multiple items in order to increase their reliability. With more reliable sub-facets, the resulting factor solution of the scale may be different.

There are additional concerns with the items in the scales used by Smith and his colleagues to measure cognitive appraisal. One of these is the wording of the items. The items are written as questions to the respondent rather than as statements. Items that are written in this manner provide the respondent with the opportunity to develop a theory about their behavior and their response to the question may be either the actual behavior or their theory about it. In contrast, items that are written as statements in the first person provide the respondent with the behavior and give them the opportunity to respond regarding whether this statement represents them or not.

Another issue related to the items is the how the items are written for the Pleasantness and Attentional Activity dimensions. For both of these dimensions, the items have two seemingly opposite response options. For the Pleasantness items, the situation can be appraised as pleasant or unpleasant and enjoyable or unenjoyable. For the Attentional Activity items, the situation can be appraised as devoting one's attention to the situation or to thinking about something else, or to thinking further about something or to put it out of one's mind. It is likely that pleasant/enjoyable and unpleasant/unenjoyable are opposites and part of the same appraisal. However, can it be assumed that opposite response choices provided by the Attentional Activity items are measuring the same thing? Other seemingly opposites of the same construct, that is, self-responsibility and other-responsibility, are measured by two separate items and in at least one of the factor solutions (Ellsworth & Smith, 1988b), are each a unique sub-facet for two different appraisal dimensions. It might be the case that if the Attentional Activity sub-facets were expanded to include one related to thinking about something else, and one related to putting something out of one's mind, either these sub-facets would add to dimension of Attentional Activity, add to other factors, or create a new factor.

Beyond the specific concerns mentioned above regarding the appraisal scale used by Smith and his colleagues, there is a larger psychometric issue involving both that scale as well as those used by other appraisal researchers (see Frijda, et al.; 1989; Roseman et al., 1996). None of the scales used to measure cognitive appraisal have been validated. That is, the construct validity of these scales has yet to be established. This raises a potentially serious methodological problem regarding cognitive appraisal research. According to Nunnally and Bernstein (1994), one purpose of science is to establish functional relationships among variables. The measurement of variables must occur first before these interrelations can be assessed. In order to make

meaningful statements about relationships it is necessary to use measures that validly measure the constructs of interest. The proof that a measure defines a construct is established by how well a measure fits into a network of expected relationships or what is called a nomological network. In addition, the discriminant validity of the measure must be assessed, which can be done by determining if the scale is different from other scales measuring related but theoretically distinct constructs (Mallard & Lance, 1998). Finally, the predictive validity of the scale should be established. This is achieved by using the scale to estimate a criterion behavior that is external to the measure (Nunnally & Bernstein, 1994).

CHAPTER 2

STUDY I

The purpose of the Study I was to address and provide solutions to the above mentioned psychometric issues with the appraisal scale used by Smith and his colleagues. A sixty-five item self-report cognitive appraisal scale was written based on the scale used by Smith and Ellsworth (1985). This new scale included three items for each of the sub-facets, included first-person statements, and added sub-facets for the Pleasantness and Attentional Activity dimensions in which original scale had questions with opposite-choice responses. Although the original Smith and Ellsworth (1985) scale had been modified in later research (Ellsworth & Smith, 1988b), the original scale was used as a starting point for the scale developed in this study. The purpose for this was to determine whether, when the above changes were made, the appraisal dimensions from the original data reduction analyses of Smith and Ellsworth (1985) would emerge or if a solution would emerge that resembled the results of the data reduction analyses of later variations of the scale. By using the original appraisal scale used by Smith and Ellsworth (1985) as a starting point, and adding items to the sub-facets in that scale, it was possible to make comparisons between the results of this study with Smith and Ellsworth (1985, 1987) and Ellsworth and Smith (1988a, 1988b), which used either the same scale or the scale with minor modifications.

The sixty-five-item scale was tested in Study I with the purpose of gathering data to perform an exploratory factor analysis of the measure in order to determine which cognitive appraisal dimensions emerged and how they compared to the research of Smith and his

colleagues. Participants wrote about a past experience, rated 15 emotions, and filled out the scale developed for this study. There were four separate conditions for the instructions regarding writing about the past experience: Two positive valence and two negative valence. The method, results, and discussion of Study I are reported below.

Following the reporting of Study I is Study II, in which the construct validation of the new scale was established. The purpose of Study II was to assess the factorial validity of the scale dimensions as well as to establish the convergent and discriminant validity of the scale.

CHAPTER 3

METHOD

Participants

Four hundred and twenty-four individuals, ranging in age from 18 - 25, from a large, southeastern university, participated in this study. Out of that sample, data from twenty participants were either missing or not usable, which made the final sample size 404.

Materials and Measures

A self-report, three-part survey was constructed in order to measure cognitive appraisal (See Appendix D). The contents of this survey were based on and adapted from Smith (2003) and Smith and Ellsworth (1985). The first part of the survey was designed to produce a situation for the participants to cognitively appraise and also to induce an emotional state (positive or negative). There were four separate appraisal scenarios. Participants were asked to describe one of four possible past experiences: A time when they felt they were treated fairly (Condition A; positive valence) or unfairly (Condition B; negative valence); or a time when they felt safe (Condition C; positive valence) or unsafe (Condition D; negative valence). Participants were randomly assigned to one of these four conditions. In addition to describing the experience, participants were also asked to include their evaluations of and any emotions they felt during the past experience. The second part of the survey was a list of fifteen emotions. Participants were asked to rate on a Likert scale (1=strongly disagree; 5=strongly agree), the extent to which they felt the each of the feelings and emotions regarding the experience they had just described. The fifteen emotions were: happiness, fear, challenge, anger, shame, frustration, hope, contempt, interest, sadness, pride, boredom, disgust, guilt, and surprise. The third part of the survey

consisted of 65 items designed to measure participants' cognitive appraisals of their past experience. The items were written as first-person statements and modeled after the items in the scale used by Smith and Ellsworth (1985). Three items were written for each sub-facet in that scale, and four new sub-facets were added. The new sub-facets were *unpleasant*, *unenjoyable*, *redirect*, and *shut out*. The items were designed to measure the original eight cognitive appraisal dimensions in the Smith and Ellsworth (1985) scale. These dimensions were Pleasantness, Attentional Activity, Control, Certainty, Responsibility, Goal-Path Obstacle, Legitimacy, and Anticipated Effort. Participants were asked to rate on a Likert scale (1=strongly disagree; 5=strong agree), how they evaluated the experience they had described.

Procedure

Participants entered the experimental room and were told to sit at least one seat apart from each other at the tables in the room. Before the session began, the experimenter asked that the participants use a number two pencil for the study because they would be filling out scantrons. A pencil was provided for participants who did not have one. To begin the experimental session, the experimenter briefly introduced the experiment to participants, telling them that they would be describing a past experience and then answering some questions about it. She indicated that there were no risks involved for participants should they decide to engage in the study. She then handed out and collected the consent forms. Following this, the experimenter provided the participants with more detailed instructions about how to proceed through the experiment. First, she told the participants that they would be describing a past experience. They were told that the past experience was of their own choosing such that they were not being specifically told, for example, to "describe their sixth birthday." The only guidelines they were being given were to describe a generally more positive or negative

experience but within that framework, they could select any experience about which they wanted to write. Second, they were asked to please proceed through the surveys in the order that they appeared and not to backtrack nor skip ahead at any time. Third, the participants were told to use the scantrons to fill out second and third parts of the surveys. The experimenter explained that there were two separate scantrons, one for each part. Fourth, the experimenter emphasized that there was no time expectation regarding how long the participants should write. She indicated that they should write such that they fully described the past experience according to the instructions provided on the survey. She also indicated that sometimes it took some people longer to think of an experience and that if something did not come to mind right away they should not take that as a sign that they were not doing a good job. She reassured them that eventually they would think of something. Finally, she told the participants that because the experiences they wrote were of a personal nature, it was important to maintain confidentiality and that when they turned in their surveys if they would turn them in face down or with the scantrons on top so that the experimenter could not see their handwriting. When the experimental session was over, the participants read a debriefing form and were thanked for their participation. Participants took between twenty-five to thirty-five minutes to complete the surveys, which made the average length of the experimental session approximately thirty minutes.

CHAPTER 4

RESULTS

Principal Components Analysis

An exploratory factor analysis of the cognitive appraisal survey was conducted using principal components analysis. An exploratory analysis was the analysis of choice because the purpose of the scale development was to determine what, if any, factors might emerge in a self-report survey of cognitive appraisal tendencies. First, the data from each of the four conditions were merged into one data set. The reasoning behind this action, rather than to factor analyze each condition separately, was based on research regarding the importance ratings in job analysis by Cranny and Doherty (1988). In this research, it was found that within a single job, the obtained shared variance within the individual behavior items of a job was the result of disagreement between the subject matter experts rather than different aspects of the actual job. Similarly, it is proposed that in this study, any within item variance found within a particular condition would be the result of disagreement between participants about the context of the situation they were describing, rather than actual facets of cognitive appraisal. Therefore, following the suggestion of Cranny and Doherty (1988), the four conditions in this study were grouped into one single data set which was then factor analyzed.

Parallel analysis was used in order to determine the number of factors present in the data. Several steps were followed in order to perform the parallel analysis, and were based on the procedure outlined in Hayton, Allen, and Scarpello (2004). The first step was to conduct an unrotated principal components analysis on the data in order to obtain the eigenvalues of the

components. In the second step, these eigenvalues were reproduced fifty times via a Monte Carlo program that produced a set of eigenvalues that would be obtained in the data set by chance. The third step was to compare the eigenvalues obtained from the initial analysis to the reproduced eigenvalues. This was done by taking the mean and ninety-fifth percentile of each separate eigenvalue across the fifty randomly generated sets of eigenvalues and using the number at which the original eigenvalues are higher than the values of these indices as the cutoff point for inclusion of factors in the solution. The scree plots of these three sets of eigenvalues were also analyzed to assist in the factor retention decision. Based on the ninety-fifth percentile criteria, which is more conservative than the mean, a nine-factor solution emerged.

A primary purpose of this study was to replicate the original dimensions found in the Smith and Ellsworth (1985) study. The dimensions in that study were orthogonal. For this reason a varimax rotation of the data, using the number of factors obtained via the parallel analysis, was performed. The factor solution produced by the varimax rotation appears in Table 2. Factor loadings of .50 or higher were retained in the solution.

The loading on the first factor represented the *pleasant, enjoyable, fair, and cheated* sub-facets from Smith and Ellsworth (1985). This dimension seems to represent the Pleasantness dimension from Smith and Ellsworth (1985) and therefore that will be its name.

The items in factor two are composed of the *other-* and *self-responsibility* and *other-control* sub-facets from Smith and Ellsworth (1985). Self-responsibility negatively loads onto this factor. As a result, this factor is characterized by providing an evaluation of a situation in which the agent responsible for or controlling the situation is someone or something other than the individual. This factor is named Other-Responsibility and Control.

The items in factor three represent the Goal-Path Obstacle and Anticipated Effort dimensions from Smith and Ellsworth (1985). Combined, these items suggest two facets of a situation that an individual must address: the obstacles and problems facing the individual, and the effort they must put forth in order to deal with the situation. Therefore, this factor is called Situational Obstacle-Effort.

The items in factor four represent the two original sub-facets in the Attentional Activity dimension in Smith and Ellsworth (1985): *Consider* and *attend*. While Lazarus and Smith (1988) dropped Attentional Activity as an appraisal dimension citing it as a component of emotion, in this scale, attention is measured as a situation evaluation. For this reason, attention is kept as an appraisal dimension, and the name of the dimension remains Attentional Activity.

Factor five is represented by *understand* and *uncertain* sub-facets of the Certainty dimension from Smith and Ellsworth (1985). The items in this factor continue to reflect that original dimension. This name for this factor will remain Certainty.

Factor six is composed of items representing the Smith and Ellsworth (1985) sub-facet of *situational control*, which means that an evaluation of a situation is made in terms of whether the agent involved in it is situational. The name for this factor will remain Situational Control.

The items in factor seven are from the *shut out* and *redirect attention* sub-facets that were added to this scale and were not originally separate sub-facets of the Attentional Activity dimension in Smith and Ellsworth (1985). Individuals evaluating a situation in terms of how to avoid dealing with it are engaging in a form of coping, albeit an unhealthy one. This factor is named Avoidance-Coping.

Factor eight is comprised of items from the *predict* sub-facet of the Certainty dimension in Smith and Ellsworth (1985). Individuals evaluating a situation in terms of how to anticipate

what might happen next are engaging in a form of coping with their current situation. This factor is consequently named Anticipatory-Coping.

The items in factor nine represent the *self-control* sub-facet from Smith and Ellsworth (1985). These items are an evaluation of the situation in terms of whether the agent involved in the situation is the self. This name for this factor will remain Self-Control.

The reliability of the unweighted linear composite based on items that loaded on each factor was estimated. The Cronbach alpha values for the dimensions are as follows: Pleasantness, $\alpha = .960$; Other-Responsibility and Control, $\alpha = .925$, Situational Control, $\alpha = .664$. Self-control, $\alpha = .890$; Situational obstacle-effort, $\alpha = .893$; Attentional Activity, $\alpha = .847$; Certainty, $\alpha = .829$; Avoidance-coping, $\alpha = .726$; and Anticipatory-coping, $\alpha = .865$. For the Situational Control dimension, removing one item brought the Cronbach alpha up to $\alpha = .843$, so this item was deleted from that dimension and from the scale.

The appraisal dimensions recovered from the scale developed in this study and those from the research of Smith and his colleagues are presented in Table 1. A comparison between these dimensions and those recovered in the research of Smith and his colleagues show that the results of this study provide mixed support for the recovered appraisal dimensions reported in Smith and Ellsworth (1985, 1987) and Ellsworth and Smith (1988a). The primary reason for these results is most likely due to the differences between the scale developed for this study and the scale used by Smith and his colleagues. The scale developed in this study has 65 items written in first-person statements. The items represent eight appraisal dimensions and there are three items per sub-facet of each dimension. In addition, four new sub-facets were included: *unpleasantness*, *unenjoyable*, *redirect*, and *shut out*. The dimensions recovered in this study that are similar to previous studies are: Agency, Attentional Activity, Situational Control (Smith &

Ellsworth, 1985, PCA analysis); Agency, Attentional Activity, Certainty, Situational Control (Smith & Ellsworth, 1985, SINDSCAL analysis); Attentional Activity, Certainty (Smith & Ellsworth, 1987); and Attentional Activity, Certainty, Situational Control (Smith & Ellsworth, 1988a). In the study by Ellsworth and Smith (1988b), additional, single-item sub-facets were added to the scale, which were conceptually related to sub-facets already measuring the appraisal dimensions. The recovered dimensions in this study are most similar to those reported in Smith and Ellsworth (1988b), but only two of these dimensions, Predictability and Situational Agency, include a sub-facet not previously in the earlier version of the scale. The other dimensions the two scales have in common are Effort/Obstacle, Certainty, and Attentional Activity. In conclusion, of the nine appraisal dimensions recovered in scale developed in this study, six are replications dimensions that have been recovered some point in the research of Smith and his colleagues. These are Attentional Activity, Agency, Situational Control, Certainty, Predictability, and Effort/Obstacle. It should be noted that the Pleasantness dimension recovered by Smith and his colleagues (Ellsworth & Smith, 1988b, Smith & Ellsworth, 1985, SINDSCAL) is very similar to the Pleasantness dimension in this study, with the only difference being that the Pleasantness dimension in this study contains the additional sub-facets of *unpleasantness* and *unenjoyable*. Therefore, there are two appraisal dimensions in the scale developed in this study that differ from previous research, and it is likely they emerged because either there were more items measuring the sub-facet (Self-control) or because the dimension is measured by sub-facets not included in previous research (Avoidance-coping).

Correlation Analysis. Cognitive appraisals are used to describe the emotional experience along dimensions other than positive and negative valence. The appraisal dimensions recovered from the scales used by Smith and his colleagues have been correlated with their participants' reported

emotions and have shown patterns of relationships among appraisal dimensions and emotions. Participants' emotions were also recorded in Study I and the appraisal dimensions recovered from the scale developed in this study were correlated that measure. Results from the Pearson correlation analysis revealed that the appraisal dimensions from this study have different patterns of relationships among different emotions (see Table 3). These patterns indicate that emotions of positive and negative valence, such as fear and hope, have opposite correlations with the appraisal dimension of Pleasantness, which measures valence, yet are also correlated in the same direction with the another appraisal dimension (Situational Control). Overall, the results from the correlation analysis showed that the appraisal dimensions from the scale developed in this study can distinguish between different patterns of emotions.

CHAPTER 5

DISCUSSION

There are three primary contributions of this scale development to research. First, the appraisal scale being used by Smith and his colleagues measured sub-facets of appraisal dimensions with single-items. These sub-facets are responsible for determining the nature of the appraisal dimensions recovered after data reduction techniques. The scale developed in this study uses multiple items to measure the sub-facets, which creates more reliable measures of the dimensions. Second, the scale developed in this study has produced two new appraisal dimensions. One of the dimensions is similar to, though not an exact replication of, the Self-Agency dimension in Ellsworth and Smith (1988b). However, the other dimension, Avoidance-Coping, is entirely new and is the result of creating two new sub-facets from questions in the Attentional Activity dimension in the original appraisal scale (Smith & Ellsworth, 1985). This finding indicates that the Attentional Activity dimension used in the research of Smith and his colleagues was not accurately measured and that, as a result, an appraisal dimension important to our understanding of how people evaluate situations was being overlooked. Third, the new scale is written in first-person statements. These statements make respondents agree or disagree with an evaluation of the situation as opposed to the original scale in which they were asked a question about their evaluation of the situation to which they might generate a theory about their appraisal and answer with that information.

CHAPTER 6

STUDY II

The purpose of Study II was to establish the convergent and discriminant validity of the scale developed in Study I as well as to assess the factorial validity of the scale dimensions. The purpose of determining convergent validity was to establish whether the constructs reflected in the appraisal scale correlated with theoretically similar constructs. The scales used to measure the related constructs, with sample items, are as follows. Table Four presents a grid of the appraisal constructs and the constructs below to which they were proposed to be related. In addition, the pattern of predictive relationship between the appraisal dimensions and emotions was also assessed.

Positive and Negative Affect Schedule – Expanded Form (PANAS-X) (Watson & Clark, 1994).

Participants were given a list of 60 emotion words and phrases (e.g., upset, angry, bold) and given instructions to “Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way right now, at this moment.” Responses ranged from 1 = Very Slightly or Not at All to 5 = Extremely.

Procedural Justice scale (PJS) (Colquitt, 2001). Seven items were used to measure procedural justice (e.g., Have you been able to express your views and feelings during those procedures?).

Responses ranged from 1=Strongly Disagree to 5=Strongly Agree.

Perceived Predictability Index (PPI) (Zvolensky, Eifert, Lejuez, Hopko, & Forsyth, 2000). This 8-item scale was used to measure the predictability perceptions for the occurrence of anxiety-related events (e.g., I know when I will have stressful conflicts). Responses ranged from 0=Never to 4=Always.

Causal Dimension scale (CDS) (Russell, 1982). This nine-item scale was used to measure how a person attributes perceived causes of an event (e.g., Is the cause something that reflect: Reflects an aspect of yourself/Reflects an aspect of the situation). Responses ranged from 1 to 9.

Mindful Attention Awareness scale (MAAS) (Brown & Ryan, 2003). This five-item scale was used to measure state mindfulness (e.g., I'm finding it difficult to stay focused on what's happening in the present). Responses ranged from 0=Not at all to 6=Very much.

Ways of Coping Checklist – Revised: Avoidance subscale (WCCR-A) (Vitaliano, Russo, Carr, Maiuro, & Becker, 1985). The ten items from the Avoidance subscale of the WCCR were used to measure avoidance coping (e.g., I went on as if nothing happened). Responses ranged from 1=Strongly Disagree to 5=Strongly Agree.

Causal Uncertainty scale (CUS) (Weary & Edwards, 1994). Eleven items from this scale were adapted to measure state causal uncertainty (e.g., I did not know what it took to get along well with others). Responses ranged from 1=Strongly Disagree to 5=Strongly Agree.

In addition to establishing the convergent validity of the cognitive appraisal scale that was developed in Study I, the discriminant validity of the scale was also tested in Study II. The two scales chosen to establish discriminant validity were, unlike those selected for examining convergent validity, dispositional measures. The purpose for choosing trait rather than state measures is because cognitive appraisal is an active evaluation of one's current situation and should be more similar to state rather than trait constructs. If the cognitive appraisal scale perfectly correlates with these two dispositional measures, then one should be concerned with two things. The first concern would be that the scale is redundant with two constructs to which it should be related but theoretically distinct. The second concern would be that the scale is a trait rather than a state measure. The scales chosen to test discriminant validity are the Need to Evaluate scale (NES) (Jarvis & Petty, 1996) and the Need for Cognition scale (NCS) (Cacioppo, Petty, & Kao, 1984).

The NES measures the propensity to engage in evaluation. It positively predicted participants' prevalence of evaluative relative to non-evaluative thoughts in narratives they provided about themselves (Jarvis & Petty, 1996). In other words, participants who scored high on the measure had more evaluative thoughts regarding the day they described (e.g., I was both relieved and upset with my grade). Cognitive appraisals are an individual's evaluation of a situation in terms of its harm or benefit to one's well being as well as an evaluation in terms of the coping response to the situation. This construct should differ from the need to evaluate because it is a state measure, and because the evaluation made during appraisal is relative to one's well being rather than just an evaluative response regarding their activity.

Need for cognition refers to a person's tendency to engage in and enjoy effortful cognitive activity (Cacioppo et al., 1984). Individuals high in need for cognition tend to seek,

acquire, think about, and reflect back on information to make sense of stimuli, events, and relationships in their surroundings. Individuals low in need for cognition rely on others, cognitive heuristics, and social comparison to provide this resource (Cacioppo, Petty, Feinstein, & Jarvis, 1996). In the process of cognitive appraisal, individuals are motivated to evaluate, either consciously or unconsciously, a situation in terms of its harm or benefit to their well being and their coping response to that situation. This construct should differ from need for cognition because it is a state measure, and because cognitive appraisals require rapid evaluation of situations whereas need for cognition represents the indulgence in effortful cognitive activity.

The two scales to be used to determine discriminant validity are as follows.

Need to Evaluate scale (NES) (Jarvis & Petty, 1996). This 16-item scale measured the tendency to engage in evaluative responding (e.g., I form opinions about everything). Responses ranged from 1=Strongly Disagree to 5=Strongly Agree. *Need for Cognition (NCS)* (Cacioppo et al., 1984). This 18-item scale measured the need for cognition (e.g., I would prefer complex to simple problems). Responses ranged from 1=Strongly Disagree to 5=Strongly Agree.

CHAPTER 7

METHOD

Participants

Participants were 803 undergraduates from a large southeastern university, ranging in age from 18 - 47 years old, with the median and modal age of 19 years old. Seventy-eight percent of the sample was White, non-Hispanic, non-Latino; 7% of the sample was Asian; 5% of the sample was Black or African American; and 4.5% of the sample was Multiracial.

Materials and Measures

The self-report, three-part survey used to measure cognitive appraisal in Study I was again Study II but with two modifications. First, the Cognitive Appraisal Scale (CAS) was a 58-item scale (See Appendix E). Five items were dropped from the original scale. Four items were dropped because they had a loading lower than .5 on their respective factors. One item was dropped because by dropping it the Cronbach's alpha for the unweighted linear composite increased. Two additional items were dropped because they were the same item as the one the one just mentioned.

This final scale had nine cognitive appraisal dimensions and the following sub-facets. Pleasantness contained 14 items and was composed of the *pleasantness*, *unpleasantness*, *enjoyable*, *unenjoyable*, *fair*, and *cheated* sub-facets. Other-Responsibility and Control contained nine items and was composed of the *other-responsibility*, *other-control*, and *self-responsibility* sub-facets. Situational Obstacle-Effort contained eight items and was composed of the *problem*, *obstacle*, *exert*, and *effort* sub-facets. Attentional activity contained seven items and was

composed of the *consider* and *attend* sub-facets. Certainty contained six items and was composed of the *understand* and *uncertain* sub-facets. Situational Control contained three items and was composed of the *situational control* sub-facet. Avoidance-Coping contained four items and was composed of the *redirect* and *shut-out* sub-facets. Anticipatory-Coping contained three items and was composed of the *predict* sub-facet. Self-Control contained three items and was composed of the *self-control* sub-facet.

Second, the second part of the survey was comprised of the Differential Emotions Scale – IV (DES) (Kotsch, Gerbing, & Schwartz, 1982) as a measure of participants’ emotion (See Appendix F). The survey still contained the same four separate appraisal scenarios (two positive valence and two negative valence). The PANAS-X (Watson & Clark, 1994) was measure positive and negative affect (see Appendix G). The Procedural Justice scale (Colquitt, 2001) was used to measure procedural justice (see Appendix H). The Generalized Self-Efficacy Scale (Schwarzer & Jerusalem, 1995) was used to measure self-efficacy (see Appendix I). The Perceived Predictability Index (Zvolenksy et al., 2000) was used to measure perceived predictability (see Appendix J). The Causal Dimension scale (Russell, 1982) was used to measure attributions of perceived causality and controllability (see Appendix K). The Mindful Attention Awareness scale (Brown & Ryan, 2003) was used to measure state mindfulness (see Appendix L). The Ways of Coping Checklist Revised – Avoidance subscale (Vitaliano et al., 1985) was used to measure avoidance coping (see Appendix M). The Causal Uncertainty scale (Weary & Edwards, 1994) was adapted to measure state causal uncertainty (see Appendix N). The Need to Evaluate scale (Jarvis & Petty, 1996) was used to measure the tendency to engage in evaluative responding (see Appendix O). The Need for Cognition scale (Cacioppo et al., 1984)

was used to measure need for cognition (see Appendix P). A survey was included to gather demographic information (see Appendix Q).

Procedure

Participants entered the experimental room and were given consent forms to sign. The experimenters then gave participants a brief overview of the experimental task, which was to write about an experience that was highly vivid and personal to them, and to include their evaluations of and emotions during the experience. They were told to fill out the survey and inventories in the order that they appeared in the packet, making sure to thoroughly read the instructions for each component before they filled it out. They were also told that the information they provided in the survey was anonymous. They were then given a packet containing the cognitive appraisal survey and the measures used to test convergent and discriminant validity. The participants were instructed to return the packets to the experimenter after they completed filling them out. When they turned in the packets, they were debriefed and thanked for participating in the experiment.

CHAPTER 8

RESULTS

Principal Components Analyses

An exploratory factor analysis of the CAS was conducted using principal components analysis. This method was chosen because the scale used in the second study had fewer items than the original scale, which might have had an effect on the factor structure. The purpose of this analysis was to determine whether the same factor structure would be found in the data in the current study as in Study I. As with Study I, the data from each of the four conditions were merged into one data set (see Cranny & Doherty, 1988). Parallel analysis was again used in order to determine the number of factors present in the data (see Hayton et al., 2004). Based on both the ninety-fifth percentile criterion and the mean criterion, a ten-factor solution emerged. A varimax rotation of the data, using the number of factors obtained via the parallel analysis, was performed. The factor solution produced by the varimax rotation appears in Table 5. Factor loadings of .50 or higher were retained in the solution. The same factor structure found in Study I was replicated in the current study with the exception of the items measuring self-responsibility. In Study I, these items appeared in the Other-Responsibility and Control factor. In the current study, these items had factor loadings on a separate factor, therefore creating another dimension to the scale, which is called Self-Responsibility.

The reliability of the unweighted linear composite based on items that loaded on each factor was estimated. The Cronbach alpha values for the dimensions are as follows: Pleasantness, $\alpha = .960$; Situational Obstacle-Effort, $\alpha = .889$; Other-Responsibility and Control, $\alpha = .918$,

Attentional Activity, $\alpha = .879$; Certainty, $\alpha = .827$; Self-Responsibility, $\alpha = .944$; Situational Control, $\alpha = .900$; Anticipatory-Coping, $\alpha = .914$; Avoidance-Coping, $\alpha = .760$; Self-Control, $\alpha = .901$.

The underlying factor structures of the empirically established scales used in the current study were also analyzed. Exploratory factor analyses were conducted using principal component analyses. This type of analysis was used rather than confirmatory factor analysis for the following reasons. First, some of the scales used in this study are well documented, and some are not. Second, most of the scales were developed using internal consistency measures. Third, few of the scales have been tested to determine whether there is a unidimensional solution. Fourth, once the structure of a scale has been established, the question must be asked: Should it no longer be examined? The Rosenberg Self-Esteem Scale, which has been widely used in research, is currently receiving increasing attention regarding the reliability and validity of the original factor solution.

Parallel analyses were run on each of the scales to determine the number of factors present in the data set for each scale. All of the resulting factor solutions that emerged were based on both the ninety-fifth percentile criterion and the mean criterion, which were the same for each respective scale. Principle components analyses with varimax rotation of the data, using the number of factors for each scale obtained via the parallel analysis, were performed. Factor loadings of .30 or higher were retained in the solution. The reliability of the unweighted linear composite based on items that loaded on each factor was estimated.

There was mixed support for the empirically established factor solutions of the scales in the current data set. The scales in which the same number of empirically established factors were retained were the MAAS ($\alpha = .838$), the PPI (external events, $\alpha = .614$; internal events, $\alpha = .688$);

the CDS (controllability, $\alpha = .742$, causality, $\alpha = .760$, stability, $\alpha = .434$); the PJS ($\alpha = .796$); the GSES ($\alpha = .903$); and the NCS ($\alpha = .898$). This supports that the empirically established unidimensionality of the MAAS, PJS, GSES, and NCS had been replicated.

Because the parallel analysis produced alternatives to the empirically established number of factors for the remaining scales, it was necessary to review the factor loadings of the items of these scales in order to develop names for the resultant factors. The scales in the current study which had different factor solutions than those which had been empirically established were the PANAS-X, the CUS, the WCCR-A, and the NES.

The established factor solution of PANAS-X was divided into two separate scales. The first scale was the 20 items in the two General Dimension scales, which measured Positive and Negative Affect. The second scale was the 55 items in the 11 Specific Affect scales, which measured Basic Negative Emotions (Fear, Hostility, Guilt, and Sadness), Basic Positive Emotions (Joviality, Self-Assuredness, and Attentiveness), and Other Affective States (Shyness, Fatigue, Serenity, and Surprise). The factor solution of the PANAS-X in the current data set consisted of 20 items in four General Dimension scales and 55 items in seven Specific Affect scales. Based on the item loadings, it appeared that the factors in the General Dimension scales were measures of Positive Affect ($\alpha = .881$), Nervousness ($\alpha = .819$), Irritability ($\alpha = .849$), and Attentiveness ($\alpha = .419$). It appeared that the factors in the seven Specific Affect scales were measures of Positive Emotion ($\alpha = .924$), Hostility ($\alpha = .888$), Fear ($\alpha = .884$), Guilt ($\alpha = .992$), Withdrawal ($\alpha = .853$), Fatigue ($\alpha = .896$), and Attentiveness ($\alpha = .747$). The primary differences between the empirically established factor structures and the factor solutions in the current study of this scale are that there are a greater number of negative valence factor solutions relative to positive valence factor solutions, as well only one affective state other than valence present.

Although the empirically established factor structure of the PANAS-X was not replicated in this data set, the dimensions of affect that resulted from this factor solution remain useful measures for the convergent validity study. There exist two measures of positive affect, and several measure of negative affect. The purpose for the inclusion of the PANAS-X was to test the relationship of the Pleasantness factor in the CAS with a measure of valence. The PANAS-X dimensions of affect in this data set, though different in structure from the original, empirically established dimensions, remain measures of valence.

The factor solution in the current study for the CUS, which had been empirically established as a unidimensional scale, was two dimensions. The items in the first dimension appeared to be a measure of situational uncertainty (i.e. “When bad things happened, I generally did not know why.”), and the items in the second dimension appeared to be a measure of interpersonal relation uncertainty (i.e. “I did not know what it took to get along well with others.”). Therefore, these two dimensions were named Uncertainty – Situation ($\alpha = .850$) and Uncertainty – Relation ($\alpha = .734$). One explanation for the different factor solution of this scale in the current study might be that because a state, rather than the trait, form of the scale was used, there might have been an effect of the appraisal/emotion manipulation component of the experimental task, which was participants’ description of their past experience. According to the instructions of the past experience task, individuals were required to describe a past experience that was vivid and important, and to include what they had felt and thought about the situation. Since the items in the scale were state measures and had a present-time focus, this might have increased the sensitivity of the items as a measurement of individuals’ feelings of uncertainty, which might have been more pronounced since they had only moments before described a vivid personal experience in which they might have expressed feelings or thoughts of uncertainty. In

spite of the different factor solution of the CUS between the current study and previous research, the two dimensions of the scale in the current study have acceptable reliability and the items do appear to be accurately grouped into measures of different types of uncertainty. It seems appropriate, therefore, to use this scale in the convergent validity study, and to examine the relationship of the Certainty dimension of the CAS to both dimensions.

The factor solution in the current study for the WCCR-A, which had been empirically established as a unidimensional subscale – was shown to have two factors. Unlike the scales discussed thus far for which different factor solutions emerged, in this case the distinguishing feature between the two factors seemed to be the reliability of the items. The items for both factors appeared to measure the construct of avoidance. The reliability, however, of the unweighted linear composite based on items that loaded on each factor was considerably different. The Cronbach's alpha for the first unweighted linear composite was $\alpha = .770$, and the Cronbach's alpha for the second unweighted linear composite was $\alpha = .337$. There were eight items in the first factor and two items in the second factor. This eight-item factor did appear to measure avoidance in a nearly similar manner as the original scale and to be an accurate reflection of the original scale that was to be used in the convergent validity study, so was used instead of the original scale in the convergent validity study.

The factor solution in the current study for the NES, which had been empirically established as a unidimensional scale, was two dimensions: Preference for Neutrality ($\alpha = .772$) and Need to Evaluate ($\alpha = .803$). In the development of the NES (Jarvis & Petty, 1996), a two-factor solution emerged from the exploratory factor analysis, and the factors were given the names above. The items in the Preference for Neutrality factor were described as representing individuals' motive not to evaluate, and the items in the Need to Evaluate factor were

characterized as representing individuals' motive to evaluate. This two-factor solution was then tested in confirmatory analyses. The conclusion was drawn that the Preference for Neutrality factor was simply the inverse of the Need to Evaluate factor, and that since the items were highly, negatively related, the two-factor solution was not an improvement over the one-factor solution in statistical or conceptual terms. In the current study, the correlation between the unit-weighted composites of the two factors was significant and positive, $r(801) = .525, p < .05$ (the Preference for Neutrality items had been reversed coded). This indicates that the high degree of association that was found between these two dimensions in previous literature was not replicated in the current study. Because of this finding, both dimensions were used in the discriminant validity analysis.

Convergent Validity Analyses

The statistical analysis procedure to test convergent validity was based on Mallard and Lance (1998). First, manifest indicators for each construct were formed by randomly allocating scale items to parcels and forming parcel composite scores. These scores are widely used in structural equation modeling, a technique in which both the fit of the measurement model (the test of the relationships between the measures and the constructs) and the structural model (the relationships between the latent variables) can be simultaneously assessed (Landis, Beal, & Tesluk, 2000). There are at least six methods by which scale items can be parceled to form composite measures. The single-factor method [SFA] is performed by running all items on a scale through a single-solution specified factor analysis, examining the factor loadings, and creating a first pairing of the highest loading item with the lowest loading item, then creating a second pairing of the second highest loading item with the second lowest loading item and so forth. A second method is the correlational [R] method in which the bivariate relationships

among all of the items are calculated, and then the first pairing is made of the items with the strongest correlation, the second pairing is made of the items with the second strongest correlation, and so forth. A third method is the random [RAND] method in which items are randomly assigned to parcels.

A fourth method of composite formation is the content [CONT] method, in which items are placed in composites based on theory or judgment. A fifth method is the exploratory factor analysis method, in which an exploratory factor analysis is performed and items are assigned to parcels based on the factor loadings. A sixth method is the empirically equivalent [EE] method, in which items are assigned to parcels such that the measures have equal means, variances, and reliabilities (Landis et al., 2000). In an empirical comparison of the different methods of creating composite measures, Landis et al. (2000) found that the use of composites improved overall model fit compared to a model in which individual items had been used to measure the observed variables. The models from the SFA, R, RAND, and EE methods were superior on model criteria fit. The RAND technique was recommended as the most appealing of all methods because it is not necessary to perform initial analyses prior to creating the composites.

In the current study, the process by which scale items were randomly allocated to parcels is as follows. For each scale or sub-scale, items were assigned a number. A random numbers table was then used to assign an item to a parcel. The parcel composite score was the mean score of the items. There were approximately two to three items per parcel, and an average of three parcels per construct. In cases in which there were an uneven number of items, the leftover item was assigned to the last parcel.

The convergent validity analysis is an examination of the relationships between the dimensions of the CAS and established scales which measure conceptually similar constructs.

Table Four presents a grid of the appraisal dimensions and the constructs to which they are proposed to be related. The new tenth dimension of the factor solution of the CAS from the current study, Self-Responsibility, will be compared to the CDS since the factor on which the items originally loaded was proposed to be related to that scale.

To test the convergent validity of the scale, the LISREL-8.54 program (Jöreskog & Sörbom, 2003) was used to estimate factor loadings in the block-diagonal factor pattern matrix (LISREL's Λ matrix), factor correlations (LISREL's Φ matrix), and parcel residual variances (LISREL's Θ matrix). The goodness of fit indices used to test model fit were χ^2 , Non-Normed Fit Index (NNFI), Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMSR).

The NNFI is a Type-2 incremental fit index, which uses the same information as a Type-1 index (which represents the proportion of increased fit the hypothesized model shows over the independence or null baseline model) but the expected values of the chi-square under the central chi-square distribution are also incorporated. It is an index in which the difference between the fit of the target and baseline (usually null) models is compared to the difference in fit between the baseline model and its expectation. The recommended cut-off is .95 or above (Hu & Bentler, 1998, 1999).

The CFI is a Type-3 incremental fit index, which uses the same information as a Type-1 index but the expected values of the chi-square under the non-central chi-square distributions are incorporated. These are called non-centrality parameters. The CFI is an index in which the non-centrality parameters of the target and baseline models are compared. The degree that the target model has a better fit than the baseline model, the CFI will approach 1.0. The recommended cut-off is .95 or above (Hu & Bentler, 1998, 1999).

The RMSEA is a standardized measure of the lack of fit of the population data to the model. This means that it measures lack of fit due discrepancy between the population error (Σ) and the predicted population error (Σ') rather than to sampling error. Technically, it represents the discrepancy per degree of freedom. It has been found that RMSEA is moderately sensitive to simple model misspecification and very sensitive to complex model misspecification. It is not very sensitive to distribution or sample size. The recommended cut-off is .06 or less (Hu & Bentler, 1998).

The SRMR is the square root of the average of the residual elements $(S - \Sigma)^2$. This index depends on the size of the elements of S (the sample correlation matrix). The SRMSR is standardized, which puts this index into a correlation type metric. It is recommended that the SRMSR be reported because it is the index that is the most sensitive to simple model misspecification and is moderately sensitive to complex model specification. The recommended cut-off is .08 or less (Hu & Bentler, 1998).

Eleven CFA models were used to test the convergent validity of the 10 Cognitive Appraisal Scale (CAS) factors. The parameter estimates of the cognitive appraisal factors and the proposed theoretically related constructs are in Tables 6 - 16. The estimated parameters in the Λ matrix indicate the factor loadings of the observed variables on the latent constructs. In the models tested, the observed variables had significant and below 1.0 factor loadings onto the latent constructs as specified in the block diagonal pattern with one exception, which is discussed below. The factor correlations in the Φ matrix are also discussed below. The goodness-of-fit indices for each model are in Table 17. Based on the fit indices, all models tested appeared to have an acceptable fit. Some models, however, were changed from the original proposed model after it did not achieve good fit based on all of the fit indices, most often the RMSEA and

SRMSR indices. The models that were altered, the changes that were made, and the reasons for these revisions, are as follows.

The second of the two models to test the Pleasantness Factor was originally to include all of the factors from the PANAS-X Specific Affect scales, which were Positive Emotion, Hostility, Fear, Guilt, Withdrawal, Attentiveness, and Fatigue. However, Fatigue is characterized in the PANAS-X manual as an other affective state. Since the purpose of this model was to test the convergent validity of the Pleasantness factor, which is characterized as being a measure of pleasantness and fairness, then this other affective state did not appear to fit into the model and were therefore dropped from it. The model was then run with the Pleasantness factor and the remaining factors from the PANAS-X Specific Affect scales.

The model in which the relationship between the Avoidance-Coping factor and the WCCR-A construct was tested was also altered after the initial analysis. The initial model was run with two parcels from the Avoidance-Coping factor, and three parcels from the WCCR-A. Parcel 1 from the Avoidance-coping factor was greater than 1.00 in the Λ matrix, and the parcel residual in the Θ matrix was negative. The model was run again, with both parcels from the Avoidance-Coping factor disaggregated into a total of four items. This model did not have acceptable fit ($NNFI = .90$, $CFI = .94$, $RMSEA = .10$, $SRMSR = .061$). The four items from the Avoidance-coping factor were assessed in terms of loadings in the Λ matrix, item residuals in the Θ matrix, and relationships with other items in the covariance matrix. One of the items was dropped from the model, and the altered model was run. This model appeared to have acceptable fit.

The first model in which the relationship between Attentional Activity factor and the MAAS construct was tested examined the relationship between these two constructs. This model

had acceptable fit ($NNFI = 1.0$, $CFI = 1.0$, $RMSEA = .0$, $SRMSR = .0$), and the correlation between the Attentional Activity factor and MAAS construct was significant and negative. The second model (Table 10) was adjusted to include the Attentiveness factor from the PANAS-X as another construct to test in relation to the Attentional Activity factor.

A summary of the correlations from the CFA models in which the convergent validity of the CAS factors were tested are in Table 18. All of the proposed correlations between the CAS factors and theoretically related constructs were significant and in the expected direction with two exceptions. As expected, the Pleasantness factor was significantly, positively related to the Positive Affect, Positive Emotion, and PJS construct, and significantly negatively related the Nervousness, Irritability, Hostility, Guilt, and Withdrawn constructs. This indicates that the Pleasantness factor is conceptually similar to constructs that measure valence or fairness. Counter to expectation, the correlation between the Situational Obstacle-Effort factor and the GSES construct was non-significant. One reason for this finding might be that the items for the Situational Obstacle-Effort measured the evaluation of the difficulty of a situation in terms of appraisals of problem, obstacle, and effort. The GSES items appeared to be primarily a measure of perceived effort regarding difficult situations.

The Other-Responsibility and Control, Self-Responsibility, Situational Control, and Self-Control factors were separately tested in models in which comparisons with the CDS constructs of Locus of Causality and Controllability were made. As expected, all four factors were significantly related to these two constructs, and in the predicted direction. Specifically, Other-Responsibility and Control and Situational Control were significantly, negatively related to the constructs of locus of causality and controllability, and Self-Responsibility and Self-Control were significantly, positively related to these constructs. High scores on the Locus of Causality

and Controllability subscales of the CDS indicate that individuals' perceived cause of an outcome is internal and controllable. One difference among the factors regarding the correlations with the two constructs is that the correlations between Other-Responsibility and Control, Self-Responsibility, and Self-Control factors and the Locus of Causality construct were higher than correlations between these factors and Controllability construct, and this pattern was reversed for the Situational Control factor. This lends additional support for the conceptual similarity between these factors from the CAS and the constructs from the CDS in that the items from those three factors measures the assessment of a situation in reference to having control of or being responsible for it, whereas the items from other factor measures the assessment of a situation in terms of being externally caused.

The Attentional Activity factor was significantly, negatively related to the MAAS construct, which was not expected. An initial step to better understand this result might be to directly compare items from the two factors. Two items from the Attentional Activity factor are, "I concentrated on the incident," and, "I reflected on the incident longer." Two items from the MAAS factor are, "I'm rushing through activities without being really attentive to them," and, "I'm doing jobs or tasks automatically without being aware of what I'm doing." (Note: The MAAS items were reversed scored prior to the analyses per the instructions of the scale author.) It seems that the distinction between these items might be that those from the Attentional Activity factor are a measure of individuals' attention to a specific event, whereas the items from the MAAS scale appear to be a measure of general awareness or mindfulness of individuals' activities (plural). This might be a fine-grained distinction, but the addition of the Attentiveness factor from the PANAS-X: Specific Affect scales to the model, and the resulting correlations between that factor and the Attentional Activity factor and the MAAS factor provide some

support that the differences in item wording might be the explanation. The Attentiveness factor was, as expected, significantly and positively correlated with both the Attentional Activity and MAAS factors. Items from this factor are, “concentrating,” and “alert.” It seems that if this factor is positively correlated with the other two factors, then attentiveness is conceptually related to all three factors, which indicates that the Attentional Activity factor is conceptually similar to a measure of attention.

The Certainty factor was significantly, negatively related to the CUS construct, as expected, which indicates that this factor is a conceptual measure of certainty. The Anticipatory-Coping factor was significantly, positively related to both constructs of the PPI, which indicates that this factor is conceptually related to individuals’ predictability perceptions for the occurrence of anxiety-related events, both external and internal. The Avoidance-Coping factor was significantly, positively related to the WCCR – A construct, which establishes a link with this theoretically related construct.

Discriminant Validity Analyses

To test the discriminant validity of the scale, a CFA model was created in which the scale parcels were specified as only loading on the subscale factor they were meant to measure. LISREL’s Λ matrix was block diagonal, correlations among factors were freely estimated in LISREL’s Φ matrix, and parcel residuals were estimated in the diagonal of LISREL’s Θ matrix. Then, several more restricted CFA models were constructed in which one correlation between a cognitive appraisal subscale factor and either the NES or the NCS factors were restricted to 1.00. Comparison between the unrestricted model and each of the models in which the correlation between one pair of constructs was equal to 1.00 was a test of the discriminant validity of the two constructs. The results of the comparisons between the unrestricted models

and the restricted models are in Tables 19 and 20. In all cases, the restricted model fit the data significantly less well than did the unrestricted models, thus supporting the discriminant validity of the CAS. The results can be interpreted as providing strong support that the CAS factors are non-redundant with the NES and NCS constructs.

Multiple Regression Analyses

A series of multiple regression analyses was performed to examine the relationships between the Differential Emotions Scale (DES) factors and the appraisal dimensions. The purpose of these analyses was to determine if the appraisal dimensions could be used to distinguish among different patterns of emotions as has been shown with the appraisal scales of Smith and his colleagues. Before these analyses were run, the underlying factor structure of the DES was analyzed. Parallel analysis was run on the scale to determine the number of factors present in the data set. The resulting six-factor solution that emerged was based on both the ninety-fifth percentile criterion and the mean criterion. This differed from the original, empirically established 12 factors for the DES. Principle components analysis with varimax rotation of the data was performed. Factor loadings of .40 or higher were retained in the solution. The reliability of the unweighted linear composite based on items that loaded on each factor was estimated. The first factor was a combination of the three subscales measuring Contempt, Anger, and Disgust. An appropriate name for this factor seemed to be Hostility ($\alpha = .901$). The second factor was a combination of the three subscales measuring Guilt, Hostility Inward, and Sadness. An appropriate name for this factor seemed to be Despondency ($\alpha = .902$). The third factor was a combination of the two subscales measuring Interest and Enjoyment. An appropriate name for this factor seemed to be Excitement ($\alpha = .878$). The fourth factor was a combination of the two subscales measuring Shame and Shyness. An appropriate name for this

factor seemed to be Embarrassment ($\alpha = .880$). The fifth factor was the DES subscale Fear ($\alpha = .912$). The sixth factor was the DES subscale Surprised ($\alpha = .759$).

A series of six multiple regressions was performed. For each multiple regression, a unit-weighted composite from the DES was entered as the criterion variable, and the unit-weighted composites from the CAS were simultaneously entered as the predictor variables. The results of the multiple regressions are in Tables 21 -26. The criteria for a CAS unit-weighted composite to be considered effective in terms of differentiating among patterns of emotions is defined as the display of predicted relationships with the DES unit-weighted composites in expected directions with differing levels of significance. Overall, the results of the multiple regression analyses are indicative that most of the composites from the CAS differentially predicted the DES composites according to the above criteria. For example, the Certainty composite did not significantly predict Hostility ($\beta = -.03$), significantly, negatively predicted Despondency, ($\beta = -.08$), did not significantly predict Excitement ($\beta = -.04$), did not significantly predict Embarrassment ($\beta = -.05$), significantly, negatively predicted Fear ($\beta = -.12$), and significantly, negatively predicted Surprise ($\beta = -.19$). One CAS composite that did not exhibit a pattern of differentiation among the emotions was the Pleasantness composite, which was significant across all of the relationships with the DES composites.

Post Hoc Analyses

Additional principal component analysis. In the collection of the data for the current study, attention was paid to quality of the past experiences written by participants relative to the instructions they had been given regarding the information they were expected to include in their descriptions. The instructions for the past experience can be found on the first page of Appendix D. The 803 surveys that were included in the analyses performed above contained past

experiences that were written according to these instructions. This means that the descriptions were limited to one specific incident, included a vivid recounting of the incident, provided an indication of what was most important about the incident to the participant, and also relayed the participants' feelings about the incident. It is believed that all of these factors are necessary for participants to experience in order for the appraisal and emotion manipulation task of writing the past experience to be effective. As a result of these criteria, 259 surveys were discarded from the data set because the past experiences described by participants were inadequate on one or all of the criteria for inclusion. In order to provide a clear picture of the differences between a past experience that was retained and one that was discarded, an example of each is in Appendix R.

An exploratory factor analysis of the cognitive appraisal survey using the entire data set, including the discarded data ($N = 1105$), was conducted using principal components analysis. The purpose of this analysis was to determine whether the same factor structure would be found in the data with the addition of the discarded data. Parallel analysis was again used in order to determine the number of factors present in the data (see Hayton et al. 2004). Based on both the ninety-fifth percentile criterion and the mean criterion, a ten-factor solution emerged. A varimax rotation of the data, using the number of factors obtained via the parallel analysis, was performed. Factor loadings of .50 or higher were retained in the solution. The factor solution was a replication of the data set without the discarded data.

The reliability of the unweighted linear composite based on items that loaded on each factor was estimated. The Cronbach alphas values for the dimensions are as follows: Pleasantness, $\alpha = .960$; Situational Obstacle-Effort, $\alpha = .901$; Other-Responsibility and Control, $\alpha = .924$, Attentional Activity, $\alpha = .889$; Certainty, $\alpha = .821$; Self-Responsibility, $\alpha = .941$;

Situational Control, $\alpha = .897$; Anticipatory-Coping, $\alpha = .916$; Avoidance-Coping, $\alpha = .772$; Self-Control, $\alpha = .898$.

Additional correlation analyses. The correlations between the factors in the CAS and constructs in the scales in the convergent validity study to which these factors were not proposed to be related were assessed and are presented in Table 18. These analyses are an additional test of the convergent validity of the scale such that the strength of the predicted relationships should be greater than that of the non-predicted relationships. Overall, the general pattern in the relationship between the CAS factors and the non-predicted constructs was correlations that were lower than the predicted relationships. There were, however, a few exceptions. First, the GSES construct significantly correlated with several appraisal factors, and there was not a significant relationship between this construct and the predicted factor. Second, the Guilt and Withdrawn constructs from the PANAS-X General Dimension scales had higher correlations with several appraisal factors other than the Pleasantness factor, including the Self-Responsibility, Self-Control, Attentional Activity, and Avoidance-Coping factors. While these relationships could be viewed as troublesome regarding establishing the convergent validity of these factors, they could also be viewed as informative in terms of the relationship between appraisal and emotion. In any study, there exist a multitude of significant correlations among constructs, and examining the relationships in this study may provide a basis for developing new avenues of research with the CAS.

CHAPTER 9

DISCUSSION

One purpose of Study II was to assess the factorial validity of the cognitive appraisal scale developed in Study I. The cognitive appraisal scale developed in Study I had nine factors. In Study II, the results of the parallel analysis indicated a 10 factor solution. The results of the principle components analysis were a replication of the appraisal dimensions from Study I with one exception. The items measuring Self-Responsibility, which were once contained in the Other-Responsibility and Control factor as reversed scored items, loaded onto a separate factor. This created a new dimension in the scale called Self-Responsibility. One reason for the emergence of a new factor may be that the additional participants responded differently to the items (Hinkin, 2006).

An additional parallel analysis and principle component analysis was run on the scale in which the discarded data was included in the analysis. The results of this analysis were same number of factors and the same factor solution as the primary data set. This could indicate that the cognitive appraisal scale is robust and was not affected by the addition of the discarded data. It seems more likely, however, that the quantity of discarded data was not large enough to have an impact on the factor structure of the scale.

Another purpose of Study II was to establish the convergent validity of the cognitive appraisal scale. Overall, the CFA models that were run to examine the relationships between the factors of the CAS and conceptually related constructs appeared to have good fit. In addition, except for one relationship, all of the correlations between the appraisal factors and related

constructs were significant and in the predicted direction. On average, the correlations ranged from .13 to .42. The appraisal factors with the higher correlations (.53 to .79) were Self-Control, Self-Responsibility, and Situational Control. All three of these factors were separately tested in CFA models with the Locus of Causality and Controllability constructs from the CDS, which is a measure of attribution. Interestingly, the Self-Control and Self-Responsibility factors were highly correlated with the Causality construct, whereas the Situational Control construct was highly correlated with the Controllability construct. In a study by Smith, Haynes, Lazarus and Pope (1993), the relationship between attributions, appraisals, and emotions was investigated, and it was found that emotions are more directly related to appraisals than to attributions, and that appraisals play a mediating role between attributions and emotions. Although the correlations between three of the appraisal dimensions from this scale and three of the attribution constructs were among the highest in the convergent validity study, none were above .80, which is considered a very strong relationship, and none were 1.00, which is a statistically perfect relationship and indicates that the constructs are redundant. This lends support to the research in which the understanding of the relation between the appraisal and attribution constructs has been developed.

The one non-significant correlation in the convergent validity study was the relationship between the Situation Obstacle-Effort factor and GSES construct. An examination of the items measuring these two constructs helps to provide an understanding regarding the strength of the relationship. The items from the Situational Obstacle-Effort factor related to individuals' appraisal of situation difficulty in three areas: Problem, obstacle, and effort. The items measuring self-efficacy are indicators of individual effort in achieving goals and do not include individual

assessment of situational problems or obstacles. It is most likely for this reason, therefore, that the correlation between the two constructs was small.

Study II was also developed in order to establish the discriminant validity of the cognitive appraisal scale. The factors of the appraisal scale were first tested in a series of CFA models with correlations of 1.0 with the NES or NCS constructs. These models showed poor fit. Next, the factors of the appraisal scale were tested in a series of CFA models in which the correlations with the NES or NCS were free to vary, and these models appeared to have acceptable fit. In addition, the change in chi-square from the restricted to the target models indicate that factors from the appraisal scale are not redundant with the NES or NCS constructs. The large values of the chi-square differences could be attributed to the discriminability of the appraisal scale relative to the NES and NCS in terms of both the constructs that are being measured in addition to type of measurement. The appraisal scale is a state measure. Although the NES and NCS were selected for this study because of conceptual considerations, these measures were also selected because each is a trait measure. It was hypothesized that if the appraisal scale could be shown to be distinct from trait scales, then this would be one method of validating the scale as a state measure.

The final analyses in Study II was a series of multiple regressions in which unit-weighted composites of the factors from the appraisal scale were assessed as predictors of unit-weighted composites of the factors from the DES. The purpose of these analyses was to explore whether there existed distinctive patterns of relationships between the different appraisal dimensions and emotions. The Pleasantness factor, which accounted for the most variance in the factor solution, significantly predicted all six emotions. In addition, the Attentional Activity factor also predicted all six emotions. These two factors were categorized by Lazarus and Smith (1988) as being part

of the emotional response, rather than being appraisals. However, as has been shown in the convergent validity study, these two factors are related to conceptually similar constructs measured by the PANAS-X, as well as the PJS, but those correlations were low to moderate. Therefore, it seems that rather than characterize these appraisals as part of the emotional response, it might be that the all encompassing effect of the appraisals is due to the central role of these evaluations in the appraisal-emotion relationship. Several appraisal factors did show distinctions in predicting emotions along the lines that would be expected. Certainty negatively predicted Fear, Despondency, and Surprise. Self-Responsibility (if the reverse scoring is taken into account) positively predicted Embarrassment and Despondency and negatively predicted Surprise and Excitement.

CHAPTER 10

GENERAL DISCUSSION

The measurement of affect has been subject to much research and debate for more than two decades. The most widely used measures remain those which capture valence and activation (see Watson et al., 1999). However, there is increasing interest among researchers in understanding phenomenon, such as decision-making, relative to affect beyond the constraints of valence. Cognitive appraisal researchers provide a model that addresses the multidimensional nature of emotion. Emotions are the consequence of cognitive appraisals, or evaluations, of a situation. Individuals evaluate situations along dimensions related to their primary well-being and secondary capacity for coping, which then leads to an emotional response.

The measurement of the multidimensional cognitive appraisal phenomenon has been addressed by several researchers in their work. Scales have been developed to measure cognitive appraisal, the factor structures analyzed and re-analyzed, the appraisal dimensions related to different emotional states, and a greater understanding of behavior has been the result. The overall purpose of the current research study was to develop and validate a self-report cognitive appraisal scale that could be used in areas of psychology outside of the appraisal research domain so that there would be a psychometrically validated scale for individuals who were interested in investigating the relationships between behavioral phenomena and a multidimensional approach to emotion.

The widely accepted psychometric approach to scale validation is to establish the construct validity of a new scale so that the convergent, discriminant, and predictive validity of

the scale are established according to specific quantitative criteria. In order to establish the convergent validity of a scale, the proof that a measure defines a construct is established by how well a measure fits into a network of expected relationships, or, what is called a nomological network (Nunnally & Bernstein, 1994). This network consists of conceptually related constructs measured by empirically established scales. The discriminant validity of the measure must be established, which is done by determining if the scale is different from other scales measuring related but theoretically distinct constructs (Mallard & Lance, 1998). Finally, the predictive validity of the scale should be established. This is achieved by using the scale to estimate a criterion behavior that is external to the measure (Nunnally & Bernstein, 1994). In the current study, the convergent and discriminant validity of the new scale was established.

Main conclusions

In Study I, the new self-report cognitive appraisal scale was developed. It was a sixty-five item scale that was adapted from the scale used by Smith and Ellsworth (1985). This scale development provided three primary contributions to the literature. First, the scale used multiple items to measure of the sub-facets of cognitive appraisal dimensions which previously had been measured by one or two items. This increased the reliability of the measurement of appraisal constructs. Second, two new appraisal dimensions were produced in the factor solution of the scale. The first was the Self-Control dimension, a not entirely unique construct in that it contained items developed from the Self-Agency dimension reported by Smith and his colleagues, which loaded onto a separate factor. The second new dimension was the Avoidance-Coping factor, which was a unique construct in that the items that measured it were designed by creating two new sub-facets from questions in the Attentional Activity dimension. This new appraisal dimension helps to provide a better understanding of our understanding of the

appraisal-emotion relationship. Third, the scale had items written in first person statements with responses on a 5-point Likert scale from 1 = Strongly Disagree to 5=Strongly Agree. This is a more standardized format than the scales used by appraisal researchers, and contains one of the recommended response options for a Likert scale (Weng, 2004).

Study II was the establishment of the convergent and discriminant validity of the new scale. There were three primary contributions of Study II to the literature. First, the factorial validity of the cognitive appraisal scale was assessed and the factor structure was replicated with the exception of an additional factor. This finding provides evidence for the reliability of the factor structure of the cognitive appraisal scale. One reason that the factor structure might have been so reliably reproduced may be due to the use of multiple items to measure the components of the appraisal dimensions in the construction of the scale.

Second, a nomological network for the appraisal scale has begun to be established. Overall, the correlations between the factors of the appraisal scale and the conceptually related dimensions were significant and in the predicted directions. The correlations were below 1.0, which indicates that none of the appraisal factors were equivalent to the conceptually related constructs. This is important for all of the appraisal dimensions, but is specifically critical for the Pleasantness and Attentional Activity dimensions. Both of these dimensions were examined relative to constructs measured by a state emotion scale. Previous theoretical discussion regarding these two dimensions (Lazarus & Smith, 1993) categorized them as being part of the emotional response rather than as appraisals. However, the findings that these dimensions had moderate correlations with emotion constructs, and that in addition, the Pleasantness factor had a significant correlation with the construct from the PJS, seems to suggest that these dimensions are more appropriately characterized as appraisals.

Third, the discriminant validity of the scale was established. The relevance of this finding can be understood on two levels. First, the appraisal scale is not redundant with two conceptually similar constructs, which were measured by the NES and the NCS Scales. Second, the appraisal scale, a state measure, was not redundant with these constructs, which were trait measures. This finding helps to establish that the appraisal scale is a state measure.

Implications

Promoting the study of valence beyond affect. This study provided strong support for the appraisal dimensions. There is also support that the appraisal dimensions differentially predict emotions. Evidence suggests that the study of affect would be best conducted and more informative using the multidimensional appraisal approach rather than the bi-dimensional valence approach.

Applications of the Cognitive Appraisal Scale. This scale will be useful for the growing number of researchers who are investigating the affect – behavior relationship beyond the valence paradigm. The scale provides a measure that was validated via widely accepted, strict psychometric criteria. In addition, it is hoped that the use of the scale will be one way to eliminate the current confound problem that occurs when measures of valence are used to investigate the relationship between affect and behavior. Valence measures are limited in terms of explaining the complex effect of affect on behavior. For example, when using a valence measure, one might find that employees' who are experiencing positive emotions might have higher job satisfaction whereas those who are experiencing negative emotions might have lower job satisfaction. However, different positive and negative emotions are also characterized by different appraisal dimensions. The measurement of these dimensions in relation to emotion and behavior provide a more accurate understanding of the relationship between affect and behavior.

Limitations

As with any research, there were limitations to the current study. First, the purpose of Study II was to assess the construct validity of the appraisal scale by establishing the convergent and discriminant validity of the scale. One sample of $N = 803$ participants was used. Ideally, when construct validity is established, more than one sample will be used on which to test the scale, and the samples will have different characteristics. For example, university students were used in this study. However, the study would have been better had individuals from other populations also been used, such as participants with a different age range, different educational background, different employment situation, and so forth. Future studies should be conducted in which convergent and discriminant validity of the scale is examined with additional and more varied samples.

Second, the predictive relationships between the appraisal dimensions of the new scale and emotion dimensions from the DES were examined in a series of multiple regressions. While these analyses provided useful information regarding the relationships between the appraisal dimensions and emotions, future studies should be conducted in which a greater variety of emotions are used in the analyses so that the predictive power of the appraisal dimensions could be better established. In addition, one limitation noted throughout most appraisal research is that the cause-effect relationship between the appraisals and emotions is difficult to establish. Future research in which the predictive relationship between the appraisal dimensions in this scale and emotion are examined should be specifically designed to assess this cause and effect relationship.

Third, although the overall results of the convergent validity study were highly satisfactory, it will be necessary to re-examine the relationship of the Situational Obstacle-Effort

factor with a conceptually related dimension other than the GSES construct. There was a non-significant relationship between these two constructs, which was counter to expectation. It is believed that this finding was due the fact that the Situational Obstacle-Effort factor measured three aspects of evaluating situation difficulty (problem, obstacle, effort) whereas the self-efficacy scale measured only one aspect of situation difficulty (effort). Future work should be performed in which this appraisal dimension is related to a more equivalent construct.

Future Directions

Validation work on a new scale has the potential to continue for years. There are several areas for future research that would include this scale. First, as already mentioned, a study in which the convergent and discriminant validity was established with more varied samples would be useful. Second, it might be possible to consider pursuing this line of validation outside of the laboratory. Third, the predictive validity of the scale should be established. This work, however, should not be limited to one study nor one population. It seems that this is a critical aspect of scale validation and careful planning, design, and execution should go into this phase of the validation. A variety of laboratory studies might be the starting point, and behavioral phenomenon from I/O, social, cognitive, clinical, and additional areas of psychology could be examined. The next step might be to examine the scale relative to behavior in applied settings, such as business, health care, and government.

Another area for future research is to examine the appraisal scale relative to the context or situation in which it presented to determine if this has an effect on number and/or type of dimensions in the scale. This line of investigation would provide important information regarding whether there is a smaller set of appraisals that individuals regularly use, or if there are

appraisal that individuals use only in one situation or another but not in every situation they experience.

Another potential avenue for research would be to investigate the appraisal scale relative to demographic variables such as gender or age. There have been found to be gender effects regarding age relative to emotional intelligence as well as affect, and it would be interesting to see if there existed individual differences in appraisal as well. Similarly, the idea that age might create differences in how individuals appraise situations might have important implications for research that investigates the self and personal growth.

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APPENDICES

Appendix A

Items on the Dimensional Ratings Questionnaire (Smith and Ellsworth, 1985)

All items were rated on 11-point scales. Pleasantness and attention were rated on bipolar scales ranging from *unpleasant, divert attention* (-5) to *pleasant, devote attention* (5). The remaining dimensions were rated on monopolar scales ranging from *not at all* ___(1) to *extremely* ___(11) (Smith & Ellsworth, 1985, p. 821).

Pleasantness

(Pleasant) How pleasant or unpleasant was it to be in this situation?

(Enjoy) How enjoyable or unenjoyable was it to be in this situation?

Attentional Activity

(Consider) Think about what was causing you to feel happy in this situation. While you were feeling happy, to what extent did you try to consider this thing further, or to what extent did you try to shut it out?

(Attend) Think about what was causing you to feel happy in this situation. When you were feeling happy, to what extent did you try to devote your attention to this thing, or divert your attention from it?

Control

(Situational control) When you were feeling happy, to what extent did you feel that circumstances beyond anyone's control were controlling what was happening in this situation?

(Self-control) When you were feeling happy, to what extent did you feel that you had the ability to influence what was happening in this situation?

(Other-control) When you were feeling happy, to what extent did you feel that someone other than yourself was controlling what was happening in this situation?

Certainty

(Understand) When you were feeling happy, how well did you understand what was happening around you in this situation?

(Uncertain) When you were feeling happy, how uncertain were you about what was happening in this situation?

(Predict) When you were feeling happy, how well could you predict what was going to happen in this situation?

Goal-Path Obstacle

(Problem) Think about what you wanted when you felt happy in this situation. While you were feeling happy, to what extent did you feel there were problems that had to be solved before you could get what you wanted?

(Obstacle) Think about what you wanted when you felt happy in this situation. When you were feeling happy, to what extent did you feel there were obstacles standing in the path between you and getting what you wanted?

Legitimacy

(Fair) Think about what was causing you to feel happy in this situation. When you were feeling happy, how fair did you think this thing was?

(Cheated) When you were feeling happy in this situation, to what extent did you feel cheated or wronged?

Responsibility

(Self-responsibility) When you were feeling happy, how responsible did you feel for having brought about the events that were making you feel happy in this situation?

(Other-responsibility) When you were feeling happy, how responsible did you think someone or something other than yourself was for having brought about the events that were making you feel happy in this situation?

Anticipated Effort

(Exert) When you were feeling happy, to what extent did you feel that you needed to exert yourself to deal with this situation?

(Effort) When you were feeling happy, how much effort (mental or physical) did you feel this situation required you to expend?

Appendix B

Internal Structure of the Nine Recovered Appraisal Scales (Ellsworth & Smith, 1988a)

1. Pleasantness

Pleasant – How pleasant or unpleasant was it to be in this situation?

Enjoy – How enjoyable or unenjoyable was it to be in this situation?

2. Anticipated Effort

Effort – How much effort (mental or physical) did you feel the need to expend in this situation?

Exert – To what extent did you feel that you needed to exert yourself in order to deal with this situation?

3. Attentional Activity

Attend – Think about what was happening in this situation. To what extent did you try to devote your attention to what was going on, or to think about something else?

Think – Think about what was happening in this situation. To what extent did you try to think about these things further, or to put them out of your mind?

4. Certainty

Sure – How sure were you about what was happening in this situation?

Understand – When you were in this situation, how well did you understand what was happening around you?

5. Human Agency

Other-responsibility – How responsible did you think someone or something other than yourself was for having brought about the events that were occurring in this situation?

Self-responsibility – How responsible did you feel for having brought about the events that were occurring in this situation?

Other-control – To what extent did you feel that someone other than yourself was controlling what was happening in this situation?

Self-control – To what extent did you feel that you could influence what was happening in this situation?

Cheated – To what extent did you feel cheated or wronged in this situation?

Fair – How fair did you think what happened to you in this situation was?

6. Situational Control

Situational control – To what extent did you feel that circumstances beyond anyone's control determined what happened in this situation?

7. Perceived obstacle

Problem – Think about what you wanted in this situation. To what extent did you feel that there were problems that had to be solved before you could get what you wanted?

Obstacle – Think about what you wanted in this situation. To what extent did you feel there were obstacles standing in the path between you and getting what you wanted?

8. Importance

Importance – How important was this situation to you?

9. Predictability

Predict – When you were in this situation, how well could you predict what was going to happen?

Appendix C

Internal Structure of the Nine Recovered Appraisal Scales (Ellsworth & Smith, 1988b)

1. Pleasantness

Pleasant – How pleasant or unpleasant was it to be in this situation?

Enjoy – How enjoyable or unenjoyable was it to be in this situation?

Fair – How fair do you think what happened in this situation was?

Cheated – To what extent did you feel cheated or wronged in this situation?

2. Self-Agency

Self-responsibility – How responsible did you feel for having brought about the events that were occurring in this situation?

Self-control – To what extent did you feel that you could influence what was happening in this situation?

Power – When you were in this situation, how powerful did you feel?

Helplessness – When you were in this situation, how helpless did you feel?

3. Other-agency

Other-responsibility – How responsible did you think someone other than yourself was for having brought about the events that were occurring in this situation?

Other-control – To what extent did you feel that someone other than yourself was controlling what was happening in this situation?

4. Situational Agency

Situational Responsibility – How responsible did you think that circumstances beyond anyone's control were for having brought about the events that were occurring in this situation?

Situational Control – To what extent did you feel that circumstances beyond your control determined what was happening in this situation?

5. Effort/Obstacle

Effort – How much effort (mental/physical) did you feel the need to expend in this situation?

Exert – To what extent did you feel that you needed to exert yourself (mentally or physically) in order to deal with this situation?

Things to Do – Think about what you wanted in this situation – To what extent did you feel that there were things that needed to be done before you could get what you wanted?

Obstacle – Think about what you wanted in this situation – To what extent did you feel there were obstacles standing in the path between you and getting what you wanted?

6. Predictability

Predict – When you were in this situation, how well could you predict what was going to happen?

Future Certainty – When you were in this situation, how certain did you feel about what was going to happen?

7. Certainty

Sure – How sure were you about what was happening in this situation?

Understand – When you were in this situation, how well did you understand what was happening around you?

8. Attentional Activity

Attend – Think about what was happening in this situation – To what extent did you try to devote your attention to what was going on, or to try to think about something else?

Think – Think about what was happening in this situation – To what extent did you try to think about these things further, or to try to put them out of your mind?

9. Importance

Importance – How important was what was happening in this situation to you?

Appendix D
Three-Part Cognitive Appraisal Survey

**Past Experiences Survey
Form A**

Instructions

In this questionnaire you'll be asked to recall, describe, and answer some questions about some experience from your past. Read through the instructions below and then select a past experience you can remember well that involved this kind of incident.

First, try to recall a past experience in which

YOU WERE TREATED FAIRLY.

Please concentrate on a single time **you were treated fairly**. If more than one comes to mind, select the one that you remember best. If this particular incident is one that extended over several different episodes, focus your attention on the single episode you remember best. Finally, incidents sometimes have several aspects or parts to them. For example, having car trouble could mean unexpected expenses, being late to an appointment, extra demands on your time, and so on. If the incident you select has more than one aspect, focus your attention, as much as possible, on the single aspect you think is most central or important to the incident, and answer the questions that follow with respect to this aspect.

Try and remember *as vividly as you can* what this situation in which **you were treated fairly** was like. Think back and *re-experience* your thoughts and feelings during the original incident. When you are ready, and have recalled this situation to your mind as completely and as vividly as you can, answer the questions that follow on the next few pages. Please answer these questions as accurately as you can by indicating the best response to every question.

First, briefly please describe this situation in which **you were treated fairly**. What happened, what was the most important aspect of the incident to you, and how did you feel while the incident was happening?

Instructions

The scale below asks you to indicate the extent to which you have felt the following feelings and emotions regarding the experience you described in which **you were treated fairly**. Read each item and then mark the appropriate answer on the scantron answer form.

1	2	3	4	5
Very slightly Or not at all	a little	moderately	quite a bit	extremely

- 1) Happiness
- 2) Fear
- 3) Challenge
- 4) Anger
- 5) Shame
- 6) Frustration
- 7) Hope
- 8) Contempt
- 9) Interest
- 10) Sadness
- 11) Pride
- 12) Boredom
- 13) Disgust
- 14) Guilt
- 15) Surprise

Instructions

The scale below asks you how you evaluated the experience you described in which **you were treated fairly**. Read each item and then mark the appropriate answer on the scantron answer form, using the following scale to record your answers.

1	2	3	4	5
Very slightly Or not at all	a little	moderately	quite a bit	extremely

1. I was unclear about what was occurring during the event
2. Factors outside everybody's control affected this event
3. I felt cheated in this situation
4. I diverted my attention away from the event
5. I thought it was a good situation
6. I had the capacity to affect what was going on during the event
7. I thought it was a troublesome event
8. I discounted the event
9. I felt wronged during this event
10. I felt responsible for creating the situation
11. I thought about the episode some more
12. Someone or something other than me created the event
13. I thought it was a distressing incident
14. Hurdles had to be jumped before I could get what I required during the event
15. I thought it was an unpleasant incident
16. I paid attention to the situation
17. I had the ability to influence what was happening in the incident
18. I felt that this was a fair situation

1
Very slightly
Or not at all

2
a little

3
moderately

4
quite a bit

5
extremely

19. I felt I needed to exerted myself a great deal in order to handle this situation
20. Someone or something other than me was in charge of what was taking place during the event
21. I felt cheated in this situation
22. I had the capability to control what was taking place in the situation
23. I was uncertain about what was happening in the situation
24. I thought it was a disagreeable event
25. The incident was the result of outside influences of which nobody had control
26. I focused on the situation
27. I thought it was an enjoyable situation
28. I was engrossed in the event
29. I realized what was going on during the incident
30. I ignored the situation
31. Obstacles had to be overcome before I could get what I wanted in the situation
32. I thought it was a bad situation
33. I figured out what was occurring in the situation
34. I felt responsible for bringing about the event
35. I considered the situation further
36. I thought I really had put myself out to take care of this incident
37. I felt deceived during this incident
38. I thought it was pleasant event
39. I predicted what was going to happen during the event
40. Someone or something other than me caused the incident

1 **2** **3** **4** **5**
Very slightly **a little** **moderately** **quite a bit** **extremely**
Or not at all

- 41. I shut out the incident
- 42. Questions had to be answered before I could get what I required during the event
- 43. I reflected on the event longer
- 44. I was unsure about what was going on during the incident
- 45. Someone or something other than me was controlling what was happening in the situation
- 46. I felt that this was a justifiable event
- 47. I felt accountable for causing the incident
- 48. I redirected my attention somewhere other than situation
- 49. I tried not to focus on the incident
- 50. I thought it was a revolting situation
- 51. Someone or something other than me was influencing what was going on during the incident
- 52. I anticipated what was going to take place during the incident
- 53. Problems had to be solved before I could get what I wanted in the situation
- 54. I felt cheated in this situation
- 55. I concentrated on the incident
- 56. I understood what was happening during the event
- 57. I needed a great deal of energy to deal with this incident
- 58. Issues had to be resolved before I could obtain what I needed during the incident
- 59. I thought it was a joyful incident
- 60. I guessed what was going to occur during the situation
- 61. I thought it was an agreeable incident

1 **2** **3** **4** **5**
Very slightly **a little** **moderately** **quite a bit** **extremely**
Or not at all

62. I thought that this was a legitimate incident

63. Circumstances beyond anyone's control influenced this situation

64. Barriers had to be broken before I could obtain what I needed during the incident

65. Someone or something other than me brought about the situation

Appendix E
Revised 58-Item Cognitive Appraisal Scale

Instructions

The scale below asks you how you evaluated the experience you described in which **you were treated fairly**. Read each item and then mark the appropriate answer on the scantron answer form, using the following scale to record your answers.

1	2	3	4	5
Very slightly Or not at all	a little	moderately	quite a bit	extremely

1. I was unclear about what was occurring during the event
2. Factors outside everybody's control affected this event
3. I diverted my attention away from the event
4. I thought it was a good situation
5. I had the capacity to affect what was going on during the event
6. I thought it was a troublesome event
7. I felt wronged during this event
8. I felt responsible for creating the situation
9. I thought about the episode some more
10. Someone or something other than me created the event
11. I thought it was a distressing incident
12. Hurdles had to be jumped before I could get what I required during the event
13. I thought it was an unpleasant incident
14. I paid attention to the situation
15. I had the ability to influence what was happening in the incident
16. I felt that this was a fair situation

1 **2** **3** **4** **5**
Very slightly **a little** **moderately** **quite a bit** **extremely**
Or not at all

- 17. I felt I needed to exerted myself a great deal in order to handle this situation
- 18. Someone or something other than me was in charge of what was taking place during the event
- 19. I had the capability to control what was taking place in the situation
- 20. I was uncertain about what was happening in the situation
- 21. I thought it was a disagreeable event
- 22. The incident was the result of outside influences of which nobody had control
- 23. I focused on the situation
- 24. I thought it was an enjoyable situation
- 25. I was engrossed in the event
- 26. I realized what was going on during the incident
- 27. Obstacles had to be overcome before I could get what I wanted in the situation
- 28. I thought it was a bad situation
- 29. I figured out what was occurring in the situation
- 30. I felt responsible for bringing about the event
- 31. I considered the situation further
- 32. I thought it was pleasant event
- 33. I predicted what was going to happen during the event
- 34. Someone or something other than me caused the incident

1 **2** **3** **4** **5**
Very slightly **a little** **moderately** **quite a bit** **extremely**
Or not at all

- 35. I shut out the incident
- 36. Questions had to be answered before I could get what I required during the event
- 37. I reflected on the event longer
- 38. I was unsure about what was going on during the incident
- 39. Someone or something other than me was controlling what was happening in the situation
- 40. I felt that this was a justifiable event
- 41. I felt accountable for causing the incident
- 42. I redirected my attention somewhere other than situation
- 43. I tried not to focus on the incident
- 44. I thought it was a revolting situation
- 45. Someone or something other than me was influencing what was going on during the incident
- 46. I anticipated what was going to take place during the incident
- 47. Problems had to be solved before I could get what I wanted in the situation
- 48. I concentrated on the incident
- 49. I understood what was happening during the event
- 50. I needed a great deal of energy to deal with this incident
- 51. Issues had to be resolved before I could obtain what I needed during the incident
- 52. I thought it was a joyful incident
- 53. I guessed what was going to occur during the situation
- 54. I thought it was an agreeable incident

1 **2** **3** **4** **5**
Very slightly **a little** **moderately** **quite a bit** **extremely**
Or not at all

55. I thought that this was a legitimate incident

56. Circumstances beyond anyone's control influenced this situation

57. Barriers had to be broken before I could obtain what I needed during the incident

58. Someone or something other than me brought about the situation

Appendix F
Differential Emotions Scale – IV (DES) (Kotsch, Gerbing, & Schwartz, 1982)

	Rarely or never	Hardly ever	Sometimes	Often	Very often
	1	2	3	4	5
1. Feel like what you were doing or watching was interesting					
2. Feel amazed, like you could not believe what was happening, it was so unusual					
3. Feel discouraged, like you could not make it, like nothing was going right					
4. Feel like somebody was a "good-for-nothing"					
5. Feel sick about yourself					
6. Feel scared, uneasy, like something might harm you					
7. Feel like screaming at somebody or banging on something					
8. Feel you could not stand yourself					
9. Feel surprised, like when something suddenly happens you had no idea would happen					
10. Feel like people always look at you when anything goes wrong					
11. Feel alert, curious, kind of excited					
12. Feel like things were so rotten they could make you sick					
13. Feel angry, irritated, or annoyed					
14. Feel like you ought to be blamed for something					
15. Feel glad					
16. Feel regret, sorry about something you did					
17. Feel mad at somebody					
18. Feel bashful and embarrassed					

	Rarely or never	Hardly ever	Sometimes	Often	Very often
	1	2	3	4	5
19. Feel happy					
20. Feel like you did something wrong					
21. Feel like you do when something unexpected happens					
22. Feel like something stinks or puts a bad taste in your mouth					
23. Feel like people were laughing at you					
24. Feel like somebody was a low-life, not worth the time of day					
25. Feel joyful, like everything was going your way, everything was rosy					
26. Feel fearful, like you were in danger, very tense					
27. Feel disgusted, like something was sickening					
28. Feel embarrassed like when someone sees you make a mistake					
29. Feel like you are better than somebody					
30. Feel sheepish, like you did not want to be seen					
31. Feel afraid, shaky, and jittery					
32. Feel so interested in what you were doing that you were caught up in it					
33. Feel unhappy, blue, downhearted					
34. Feel shy, like you wanted to hide					
35. Feel mad at yourself					
36. Feel sad and gloomy, almost like crying					

Appendix G
PANSAS – X (Watson & Clark, 1999)

This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way right now, at this moment. Use the following scale to record your answer.

1 Very slightly Or not at all	2 a little	3 moderately	4 quite a bit	5 extremely
<input type="checkbox"/> cheerful	<input type="checkbox"/> sad	<input type="checkbox"/> active	<input type="checkbox"/> angry at self	
<input type="checkbox"/> disgusted	<input type="checkbox"/> calm	<input type="checkbox"/> guilty	<input type="checkbox"/> enthusiastic	
<input type="checkbox"/> attentive	<input type="checkbox"/> afraid	<input type="checkbox"/> joyful	<input type="checkbox"/> downhearted	
<input type="checkbox"/> bashful	<input type="checkbox"/> tired	<input type="checkbox"/> nervous	<input type="checkbox"/> sheepish	
<input type="checkbox"/> sluggish	<input type="checkbox"/> amazed	<input type="checkbox"/> lonely	<input type="checkbox"/> distressed	
<input type="checkbox"/> daring	<input type="checkbox"/> shaky	<input type="checkbox"/> sleepy	<input type="checkbox"/> blameworthy	
<input type="checkbox"/> surprised	<input type="checkbox"/> happy	<input type="checkbox"/> excited	<input type="checkbox"/> determined	
<input type="checkbox"/> strong	<input type="checkbox"/> timid	<input type="checkbox"/> hostile	<input type="checkbox"/> frightened	
<input type="checkbox"/> scornful	<input type="checkbox"/> alone	<input type="checkbox"/> proud	<input type="checkbox"/> astonished	
<input type="checkbox"/> relaxed	<input type="checkbox"/> alert	<input type="checkbox"/> jittery	<input type="checkbox"/> interested	
<input type="checkbox"/> irritable	<input type="checkbox"/> upset	<input type="checkbox"/> lively	<input type="checkbox"/> loathing	
<input type="checkbox"/> delighted	<input type="checkbox"/> angry	<input type="checkbox"/> ashamed	<input type="checkbox"/> confident	
<input type="checkbox"/> inspired	<input type="checkbox"/> bold	<input type="checkbox"/> at ease	<input type="checkbox"/> energetic	
<input type="checkbox"/> fearless	<input type="checkbox"/> blue	<input type="checkbox"/> scared	<input type="checkbox"/> concentrating	
<input type="checkbox"/> disgusted with self	<input type="checkbox"/> shy	<input type="checkbox"/> drowsy	<input type="checkbox"/> dissatisfied with self	

Appendix H
Procedural Justice Scale (Colquitt, 2001)

The following items refer to the procedures used to arrive at your (outcome). Please rate on the scale below to what extent:

1 = Strongly Disagree

2=Disagree

3=Neutral

4=Agree

5=Strongly Agree

1. Have you been able to express your views and feelings during those procedures?
2. Have you had influence over the (outcome) arrived at by those procedures?
3. Have those procedures been applied consistently?
4. Have those procedures been free of bias?
5. Have those procedures been based on accurate information?
6. Have you been able to appeal the (outcome) arrived at by those procedures?
7. Have those procedures upheld ethical and moral standards?

Appendix I
Generalized Self-Efficacy Scale (Schwarzer & Jerusalem, 1995)

Please rate the following items based on your past experience using the scale below.

- 1=Not at all true
- 2=Hardly true
- 3=Moderately true
- 4=Exactly true

1. I can always manage to solve difficult problems if I try hard enough
2. If someone opposes me, I can find the means and ways to get what I want
3. It is easy for me to stick to my aims and accomplish my goals
4. I am confident that I could deal efficiently with unexpected events
5. Thanks to my resourcefulness, I know how to handle unforeseen situations
6. I can solve most problems if I invest the necessary effort
7. I can remain calm when facing difficulties because I can rely on my coping abilities
8. When I am confronted with a problem, I can usually find several solutions
9. If I am in trouble, I can usually think of a solution
10. I can usually handle whatever comes my way

Appendix J

Perceived Predictability Index (Zvolensky, Eifert, Lejuez, Hopko, & Forsyth, 2000)

Please rate your response to the past experience you described using the scale below.

0=Never

1=Almost Never

2=Occasionally

3=Frequently

4=Always

Predictability of external events

1. I know when I will have stressful conflicts
2. I know when frightening events will occur
3. I know when stressful situations are over
4. I know how long conflicts will last

Predictability of internal events

5. I know when feelings of nervousness will arise
6. My heart races for unpredictable periods of time
7. I can tell when my mind will slow down
8. My unpleasant thoughts begin suddenly

Appendix K

The Causal Dimension Scale (Russell, 1982)

Please rate your response to the past experience you described using the scale provided.

1. Is the cause(s) something that:
Reflects an aspect of yourself (9) - Reflects an aspect of the situation (1)
2. Is the cause(s):
Controllable by you or other people (9) - Uncontrollable by you or other people (1)
3. Is the cause(s) something that is:
Permanent (9) - Temporary (1)
4. Is the cause(s) something:
Intended by you or other people (9) - Unintended by you or other people (1)
5. Is the cause(s) something that is:
Outside of you (1) - Inside of you (9)
6. Is the cause(s) something that is:
Variable over time (1) - Stable over time (9)
7. Is the cause(s):
Something about you (9) - Something about others (1)
8. Is the cause(s) something that is:
Changeable (1) - Unchanging (9)
9. Is the cause(s) something for which:
No one is responsible (1) - Someone is responsible (9)

Appendix L
Mindful Attention Awareness Scale (Brown & Ryan, 2003)

Instructions: Below is a collection of statements about your current experience. Using the 0-6 scale below, please indicate to what extent you are currently having each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item.

0 (not at all), 3 (somewhat), 6 (very much).

I'm finding it difficult to stay focused on what's happening in the present.

I'm rushing through activities without being really attentive to them.

I'm doing jobs or tasks automatically, without being aware of what I'm doing.

I'm finding myself preoccupied with the future or the past.

I'm finding myself doing things without paying attention.

Appendix M
Avoidance Subscale from the Ways of Coping Checklist – Revised
(Vitaliano, Russo, Carr, Maiuro, & Becker, 1985)

Please rate your response to the past experience you described using the scale below.

1=Strongly Disagree

2= Disagree

3=Neutral

4=Agree

5=Strongly Agree

1. Went on as if nothing had happened
2. Felt bad that I couldn't avoid the problem
3. Kept my feelings to myself
4. Slept more than usual
5. Got mad at the people or things that caused the problem
6. Tried to forget the whole thing
7. Tried to make myself feel better by eating, drinking, smoking, taking medication
8. Avoided being with people in general
9. Kept others from knowing how bad things were
10. Refused to believe it had happened

Appendix N
Causal Uncertainty Scale (Adapted) (Weary & Edwards, 1994)

Please rate your response to the past experience you described using the scale below.

1=Strongly Disagree

2= Disagree

3=Neutral

4=Agree

5=Strongly Agree

1. I did not know what it took to get along well with others
2. I did not understand what caused most of the problems that I had with others
3. When I saw something good happen to others, I often did not know why it happened
4. I did not understand what caused most of the good things to happen to me
5. When things go right, I generally did understand what to do keep them that way
6. When bad things happened, I generally did not know why
7. When there was more than one possible reason for a person's action it was difficult to determine which one was the actual reason
8. I often felt like I didn't have enough information to come to a conclusion about why things happened to other people
9. When I saw something bad happen to others, I often did not know why it happened
10. I often felt like I did not have enough information to come to a conclusion about why things happened to me
11. Why I think about why someone did something, there were usually so many possible reasons for it that I could not determine which one was the cause

Appendix O
Need to Evaluate Scale (Jarvis & Petty, 1996)

In general, please rate, using the scale below, the extent to which each of the following statements is generally true of you.

- 1=Strongly Disagree
- 2= Disagree
- 3=Neutral
- 4=Agree
- 5=Strongly Agree

1. I form opinions about everything
2. I prefer to avoid taking extreme positions (R)
3. It is very important for me to hold strong opinions
4. I want to know exactly what is good and bad about everything
5. I often prefer to remain neutral about complex issues (R)
6. If something does not affect me, I do not usually determine if it is good or bad (R)
7. I enjoy strongly liking and disliking new things
8. There are many things for which I do not have a preference (R)
9. It bothers me to remain neutral
10. I like to have strong opinions even when I am not personally involved
11. I have many more opinions than the average person
12. I would rather have a strong opinion than no opinion at all
13. I pay a lot of attention to whether things are good or bad
14. I only form strong opinions when I have to (R)
15. I like to decide that new things are really good or really bad
16. I am pretty indifferent to many important issues (R)

Appendix P
Need for Cognition Scale – Short Form (Cacioppo, Petty, & Kao, 1984)

In general, please rate, using the scale below, the extent to which each of the following statements is generally true of you.

- 1=Strongly Disagree
- 2= Disagree
- 3=Neutral
- 4=Agree
- 5=Strongly Agree

1. I would prefer complex to simple problems.
2. I like to have the responsibility of handling a situation that requires a lot of thinking.
3. Thinking is not my idea of fun (R)
4. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities (R)
5. I try to anticipate and avoid situations where there is a likely chance I will have to think in depth about something (R)
6. I find satisfaction in deliberating hard and for long hours
7. I only think as hard as I have to (R)
8. I prefer to think about small, daily projects to long-term ones (R)
9. I like tasks that require little thought once I've learned them (R)
10. The idea of relying on thought to make my way to the top appeals to me
11. I really enjoy a task that involves coming up with new solutions to problems
12. Learning new ways to think doesn't excite me very much (R)
13. I prefer my life to be filled with puzzles that I must solve
14. The notion of thinking abstractly appeals to me
15. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought
16. I feel relief rather than satisfaction after completing a task that required a lot of mental effort (R)
17. It's enough for me that something gets the job done; I don't care how or why it works (R)
18. I usually end up deliberating about issues even when they do not affect me personally.

Appendix Q
Demographic Survey

Demographic Information

1. What is your gender? ____ female ____ male
2. How old are you? _____
3. How do you describe yourself?
____ American Indian or Alaska Native
____ Asian
____ Black or African American
____ Hispanic or Latino
____ Native Hawaiian or Other Pacific Islander
____ White, non-Hispanic, non-Latino
____ Multiracial
____ Other
4. What is your major? _____
5. What is your class standing? ____ 1st year ____ 2nd year ____ 3rd year ____ 4th year

Appendix R
Comparison of Past Experience Descriptions from Retained and Discarded Data

Past Experience Description of a Safe Incident from Participant #552 (Retained in data set)

Over the summer, I went scuba diving in Key Largo. After the previous summer, when I ruptured my ear drum, I only needed one more dive until I was certified. My scuba coach, my mother, and I got on a commercial boat and traveled out to sea. We were unaware of the fact that a hurricane was going to hit in a couple of days, and on our second dive the current took us for a ride. After a few of our passengers jumped off, I followed as well. Once I was in the water I quickly looked around, but I could not see my coach or mother. I swam to the surface, only to see the boat a mile in the distance. My coach and one of the boat's crew members jumped in after us. I remember flipping out and feeling panicked. The crew member made us hold hands and float in a circle. I looked back to the boat and it kept getting smaller and smaller in the distance. I asked why the boat wasn't coming to get us, and my coach replied that it can't leave until he has a head count, and everyone that can get out of the water is out. All of these visions popped into my head. One of the ladies in our circle threw up, and that was the last straw. I started to cry. I thought that sharks and other fish would come to the smell of her vomit and feed on us. I felt hopeless until my coach told me it would be alright. She said to focus on the positive. We are at sea. She started to sing a song about fishies just to calm the circle down. Then I remember feeling a hush of peace over my body. I felt safe. I knew my coach wouldn't lie. After what seemed like eternity the boat finally came around. I never felt happier. There was my mom helping me onto the boat and helping me take off my gear. She told me she was worried about me, but I told her it was okay. On the boat with my mother, I felt safe. I knew that I was going to be okay. Even though we were miles away from our boat, just singing a song and being reassured by my coach, I felt safe.

Past Experience Description of a Safe Incident from Participant #1191 (Discarded from data set)

The safest I have ever felt was during my senior year in High School. I had a fight with my mother about college that ended with my jaw dislocated and me running away from home. My girlfriend of 1yr then picked me up and I stayed at her house. That night I slept on the couch and actually forgot about my mother.

Table 1

Recovered Dimensions from Appraisal Scales from Smith and Ellsworth (1985, 1987), Ellsworth and Smith (1988a, 1988b), and Yanchus, 2005.

Smith & Ellsworth (1985) PCA	Smith & Ellsworth (1985) SINDSCAL	Smith & Ellsworth (1987)	Ellsworth & Smith (1988a)	Ellsworth & Smith (1988b)	Yanchus (2005)
<u>Factor I</u> Pleasantness	<u>Factor I</u> Pleasantness	<u>Factor I</u> Agency	<u>Factor I</u> Pleasantness	<u>Factor I</u> Pleasantness	<u>Factor I</u> Pleasantness
<u>Sub-facets</u> 1. Pleasant 2. Enjoy 3. Obstacle 4. Problem 5. Cheated 6. Fair	<u>Sub-facets</u> 1. Pleasant 2. Enjoy 3. Cheated 4. Fair	<u>Sub-facets</u> 1. Other-responsibility 2. Other-control 3. Situational Control 4. Self-control 5. Self-responsibility	<u>Sub-facets</u> 1. Pleasant 2. Enjoy	<u>Sub-facets</u> 1. Pleasant 2. Enjoy 3. Fair 4. Cheated	<u>Sub-facets</u> 1. Pleasant 2. Unpleasant 3. Enjoy 4. Unenjoyable 5. Fair 6. Cheated
<u>Factor II</u> Agency	<u>Factor II</u> Obstacle	<u>Factor II</u> Legitimacy	<u>Factor II</u> Anticipated Effort	<u>Factor II</u> Self-Agency	<u>Factor II</u> Other-responsibility and control
<u>Sub-facets</u> 1. Other-responsibility 2. Self-responsibility 3. Other-control 4. Self-control	<u>Sub-facets</u> 1. Obstacle 2. Problem	<u>Sub-facets</u> 1. Cheated 2. Understand 3. Fair	<u>Sub-facets</u> 1. Effort 2. Exert	<u>Sub-facets</u> 1. Self-responsibility 2. Self-control 3. Power 4. Helplessness	<u>Sub-facets</u> 1. Other-responsibility 2. Self-responsibility 3. Other-control

Table 1 (Continued)

Recovered Dimensions from Appraisal Scales from Smith and Ellsworth (1985, 1987), Ellsworth and Smith (1988a, 1988b), and Yanchus (2005).

Smith & Ellsworth (1985) PCA	Smith & Ellsworth (1985) SINDSCAL	Smith & Ellsworth (1987)	Ellsworth & Smith (1988a)	Ellsworth & Smith (1988b)	Yanchus (2005)
<u>Factor III</u> Certainty	<u>Factor III</u> Agency	<u>Factor III</u> Pleasantness	<u>Factor III</u> Attentional Activity	<u>Factor III</u> Other-Agency	<u>Factor III</u> Situational obstacle-effort
<u>Sub-facets</u> 1. Uncertain 2. Understand 3. Predict	<u>Sub-facets</u> 1. Other-responsibility 2. Self-responsibility 3. Other-control 4. Self-control	<u>Sub-facets</u> 1. Pleasant 2. Enjoy	<u>Sub-facets</u> 1. Attend 2. Think	<u>Sub-facets</u> 1. Other-responsibility 2. Other-control	<u>Sub-facets</u> 1. Obstacle 2. Problem 3. Effort 4. Exert
<u>Factor IV</u> Attentional Activity	<u>Factor IV</u> Certainty	<u>Factor IV</u> Attentional Activity	<u>Factor IV</u> Certainty	<u>Factor IV</u> Situational Agency	<u>Factor IV</u> Attentional activity
<u>Sub-facets</u> 1. Consider 2. Attend	<u>Sub-facets</u> 1. Uncertain 2. Understand	<u>Sub-facets</u> 1. Attend 2. Think	<u>Sub-facets</u> 1. Sure 2. Understand	<u>Sub-facets</u> 1. Situational responsibility 2. Situational control	<u>Sub-facets</u> 1. Consider 2. Attend

Table 1 (Continued)

Recovered Dimensions from Appraisal Scales from Smith and Ellsworth (1985, 1987), Ellsworth and Smith (1988a, 1988b), and Yanchus, 2005.

<u>Smith & Ellsworth (1985) PCA</u>	<u>Smith & Ellsworth (1985) SINDSCAL</u>	<u>Smith & Ellsworth (1987)</u>	<u>Ellsworth & Smith (1988a)</u>	<u>Ellsworth & Smith (1988b)</u>	<u>Yanchus (2005)</u>
<u>Factor V</u> Anticipated Effort	<u>Factor V</u> Attentional Activity	<u>Factor V</u> Effort	<u>Factor V</u> Human Agency	<u>Factor V</u> Effort/Obstacle	<u>Factor V</u> Certainty
<u>Sub-facets</u> 1. Effort 2. Exert	<u>Sub-facets</u> 1. Consider 2. Attend	<u>Sub-facets</u> 1. Exert 2. Effort	<u>Sub-facets</u> 1. Other-responsibility 2. Self-responsibility 3. Other-control 4. Self-control 5. Cheated 6. Fair	<u>Sub-facets</u> 1. Effort 2. Exert 3. Things to Do 4. Obstacle	<u>Sub-facets</u> 1. Understand 2. Uncertain
<u>Factor VI</u> Situational Control	<u>Factor VI</u> Anticipated Effort	<u>Factor VI</u> Obstacle	<u>Factor VI</u> Situational control	<u>Factor VI</u> Predictability	<u>Factor VI</u> Situational control
<u>Sub-facets</u> 1. Situational Control	<u>Sub-facets</u> 1. Effort 2. Exert 3. Predict	<u>Sub-facets</u> 1. Obstacle 2. Problem	<u>Sub-facets</u> 1. Situational control	<u>Sub-facets</u> 1. Predict 2. Future Certainty	<u>Sub-facets</u> 1. Situational Control

Table 1 (Continued)

Recovered Dimensions from Appraisal Scales from Smith and Ellsworth (1985, 1987), Ellsworth and Smith (1988a, 1988b), and Yanchus, 2005.

<u>Smith & Ellsworth (1985) PCA</u>	<u>Smith & Ellsworth (1985) SINDSCAL</u>	<u>Smith & Ellsworth (1987)</u>	<u>Ellsworth & Smith (1988a)</u>	<u>Ellsworth & Smith (1988b)</u>	<u>Yanchus (2005)</u>
	<u>Factor VII</u> Situational Control	<u>Factor VII</u> Certainty	<u>Factor VII</u> Perceived obstacle	<u>Factor VII</u> Certainty	<u>Factor VII</u> Avoidance-coping
	<u>Sub-facets</u> 1. Situational Control	<u>Sub-facets</u> 1. Predict 2. Sure	<u>Sub-facets</u> 1. Problem 2. Obstacle	<u>Sub-facets</u> 1. Sure 2. Understand	<u>Sub-facets</u> 1. Shut out 2. Redirect
		<u>Factor VIII</u> Difficulty	<u>Factor VIII</u> Importance	<u>Factor VIII</u> Attentional Activity	<u>Factor VIII</u> Anticipatory-coping
		<u>Sub-facets</u> 1. Difficult	<u>Sub-facets</u> 1. Importance	<u>Sub-facets</u> 1. Attend 2. Think	<u>Sub-facets</u> 1. Predict
		<u>Factor IX</u> Importance	<u>Factor IX</u> Predictability	<u>Factor IX</u> Importance	<u>Factor IX</u> Self-control
		<u>Sub-facets</u> 1. Important	<u>Sub-facets</u> 1. Predict	<u>Sub-facets</u> 1. Importance	<u>Sub-facets</u> 1. Self-control

Table 2

Study I Cognitive Appraisal Scale Factor Solution

Items	Factor Loadings								
	1 ^a	2 ^b	3 ^c	4 ^d	5 ^e	6 ^f	7 ^g	8 ^h	9 ⁱ
38. I thought it was pleasant event Pleasantness (Pleasant)	-.884	-.035	.003	.040	.019	.063	-.084	.048	-.014
5. I thought it was a good situation Pleasantness (Pleasant)	-.879	-.030	-.036	-.001	.085	.082	-.068	.072	.036
59. I thought it was a joyful incident Pleasantness (Enjoy)	-.876	-.071	-.029	.014	.009	.075	-.091	.107	-.016
32. I thought it was a bad situation Pleasantness (Unpleasant)	.873	.056	.074	.219	-.054	.029	.023	-.005	-.051
27. I thought it was an enjoyable situation Pleasantness (Enjoy)	-.871	-.022	-.049	.025	.022	.069	-.112	.074	.026
61. I thought it was an agreeable incident Pleasantness (Pleasant)	-.871	-.089	.000	.011	.059	.048	-.063	.093	.040
15. I thought it was an unpleasant incident (Unpleasant)	.847	.037	.128	.244	-.091	.026	.124	-.016	-.049
7. I thought it was a troublesome event Pleasantness (Unenjoyable)	.763	.047	.126	.241	-.077	-.105	.121	.005	.066
18. I felt that this was a fair situation Legitimacy (Fair)	-.759	-.211	-.042	.087	.114	-.050	.025	.076	.127
24. I thought it was a disagreeable event Pleasantness (Unpleasant)	.724	.074	.163	.209	-.052	.171	.079	.051	-.103
46. I felt that this was a justifiable event Legitimacy (Fair)	-.709	-.119	.019	.067	.144	-.095	.071	.152	.111
13. I thought it was a distressing incident Pleasantness (Unenjoyable)	.693	.066	.155	.307	-.148	-.037	.078	-.034	-.018

Table 2 (Continued)

Study I Cognitive Appraisal Scale Factor Solution

Items	Factor Loadings								
	1 ^a	2 ^b	3 ^c	4 ^d	5 ^e	6 ^f	7 ^g	8 ^h	9 ⁱ
62. I thought that this was a legitimate incident Legitimacy (Fair)	-.662	-.108	-.009	.047	.131	-.208	.061	.098	.144
9. I felt wronged during this event Legitimacy (Cheated)	.592	.254	.210	.078	-.069	.547	.081	.080	-.134
50. I thought it was a revolting situation Pleasantness (Unenjoyable)	.588	.218	.156	.219	-.099	.295	.109	.070	-.072
40. Someone or something other than me caused the incident Responsibility (Other-responsibility)	.125	.861	.015	.028	-.037	-.113	.073	-.045	.034
65. Someone or something other than me brought about the situation Responsibly (Other-responsibility)	.118	.813	.042	.096	-.042	-.083	.027	.005	-.008
12. Someone or something other than me created the event Responsibility (Other-responsibility)	.103	.810	-.017	.120	.008	-.085	.005	-.006	.057
51. Someone or something other than me was influencing what was going on during the incident Control (Other control)	.101	.766	.078	.126	.004	-.056	.030	.034	-.167
10. I felt responsible for creating the situation Responsibility (Self-responsibility)	-.071	-.759	.031	.270	.033	.015	.103	.069	.133
47. I felt accountable for causing the incident Responsibility (Self-responsibility)	-.101	-.752	.063	.219	.030	-.010	.141	.101	.104

Table 2 (Continued)

Study I Cognitive Appraisal Scale Factor Solution

Items	Factor Loadings								
	1	2	3	4	5	6	7	8	9
45. Someone or something other than me was controlling what was happening in the situation Control (Other-control)	.075	.741	.029	.139	-.053	-.030	.112	.002	-.221
34. I felt responsible for bringing about the event Responsibility (Self-responsibility)	-.180	-.725	.069	.261	-.003	.005	.116	.147	.104
20. Someone or something other than me was in charge of what was taking place during the event Control (Other-control)	.056	.677	.026	.209	-.011	.045	.115	.050	-.327
58. Issues had to be resolved before I could obtain what I needed during the incident Goal Path Obstacle (Problem)	.110	-.010	.844	.102	-.011	.031	.029	.044	-.012
53. Problems had to be solved before I could get what I wanted in the situation Goal-Path Obstacle (Problem)	.074	.011	.832	.054	.014	.012	-.002	.118	-.022
31. Obstacles had to be overcome before I could get what I wanted in the situation Goal-Path Obstacle (Obstacle)	.018	-.015	.828	.089	.063	-.020	-.046	.044	.042
64. Barriers had to be broken before I could obtain what I needed during the incident Goal-Path Obstacle (Obstacle)	.070	.086	.821	.102	-.039	.020	.011	.023	-.042
14. Hurdles had to be jumped before I could get what I required during the event Goal-path Obstacle (Obstacle)	.072	.001	.765	.112	-.035	-.043	-.009	.070	.023

Table 2 (Continued)

Study I Cognitive Appraisal Scale Factor Solution

Items	Factor Loadings								
	1	2	3	4	5	6	7	8	9
42. Questions had to be answered before I could get what I required during the event Goal-Path Obstacle (Problem)	.065	.036	.666	.190	-.075	.129	.055	.001	-.014
19. I felt I needed to exerted myself a great deal in order to handle this situation Anticipated Effort (Exert)	.060	-.151	.526	.266	.063	.119	.108	.002	.146
57. I needed a great deal of energy to deal with this incident Anticipated Effort (Effort)	.221	-.003	.514	.278	.002	.079	-.053	.006	.244
36. I thought I really had put myself out to take care of this incident Anticipated Effort (Exert)	.295	-.008	.462	.437	-.023	-.003	-.041	.056	.137
43. I reflected on the event longer Attentional Activity (Consider)	.084	-.005	.192	.725	-.124	.164	.039	-.039	-.043
35. I considered the situation further Attentional Activity (Consider)	.111	-.082	.225	.723	-.065	.181	-.009	.013	.020
11. I thought about the episode some more Attentional Activity (Consider)	.102	-.058	.101	.720	-.097	.160	.112	-.059	-.017
55. I concentrated on the incident Attentional Activity (Attend)	.123	.056	.171	.654	.083	-.050	-.284	.090	.102
26. I focused on the situation Attentional Activity (Attend)	.065	.088	.148	.645	.181	.031	-.285	.004	-.009
28. I was engrossed in the event Attentional Activity (Attend)	.021	-.011	.157	.628	.036	-.188	-.232	.050	.060
16. I paid attention to the situation Attentional Activity (Attend)	.072	.158	.155	.513	.238	-.103	-.285	.042	-.002

Table 2 (Continued)

Study I Cognitive Appraisal Scale Factor Solution

Items	Factor Loadings								
	1	2	3	4	5	6	7	8	9
29. I realized what was going on during the incident Certainty (Understand)	-.150	.065	.017	.204	.769	-.100	.066	.075	.063
1. I was unclear about what was occurring during the event Certainty (Uncertain)	.219	.173	.004	.131	-.714	-.103	.082	-.054	-.073
44. I was unsure about what was going on during the incident Certainty (Uncertain)	.142	.130	.053	.228	-.713	-.032	.134	-.097	.056
56. I understood what was happening during the event Certainty (Understand)	-.162	.011	-.018	.121	.707	-.119	-.018	.243	.138
33. I figured out what was occurring in the situation Certainty (Understand)	.019	.086	.047	.255	.669	-.051	.052	.099	-.012
23. I was uncertain about what was happening in the situation Certainty (Uncertain)	.233	.099	.074	.220	-.643	-.139	.168	.040	.000
25. The incident was the result of outside influences of which nobody had control Control (Situational control)	.107	.304	.002	-.033	-.042	-.675	.100	.043	-.126
63. Circumstances beyond anyone's control influenced this situation Control (Situational control)	.025	.285	.058	-.034	-.036	-.639	.052	.020	-.142

Table 2 (Continued)

Study I Cognitive Appraisal Scale Factor Solution

Items	Factor Loadings								
	1	2	3	4	5	6	7	8	9
2. Factors outside everybody's control affected this event Control (Situational control)	.100	.329	-.003	-.067	-.067	-.619	-.027	.075	-.218
21. I felt cheated in this situation Legitimacy (Cheated)	.535	.280	.252	.069	-.130	.554	.127	.069	-.177
54. I felt cheated in this situation	.500	.241	.309	.094	-.081	.549	.135	.082	-.201
3. I felt cheated in this situation	.486	.254	.259	.043	-.076	.540	.124	.110	-.236
37. I felt deceived during this incident Legitimacy (Cheated)	.478	.270	.208	.085	-.195	.490	.151	.083	-.109
48. I redirected my attention somewhere other than situation (Redirect)	-.015	-.006	.068	-.038	-.007	-.057	.783	.043	-.105
49. I tried not to focus on the incident (Redirect)	.156	-.009	.050	-.070	.071	.038	.712	-.069	-.091
4. I diverted my attention away from the event (Redirect)	.085	-.043	.046	-.048	-.076	.008	.691	-.012	-.053
41. I shut out the incident (Shut out)	.175	.023	-.039	-.107	-.027	-.021	.554	.076	.113
30. I ignored the situation (Shut out)	-.026	.099	-.113	-.249	-.113	.111	.446	.096	.206
8. I discounted the event (Shut out)	.262	.025	.031	-.054	-.073	.007	.367	-.050	.121
52. I anticipated what was going to take place during the incident Certainty (Predict)	-.098	-.052	.146	.050	.157	-.020	.035	.862	.040

Table 2 (Continued)

Study I Cognitive Appraisal Scale Factor Solution

Items	Factor Loadings								
	1	2	3	4	5	6	7	8	9
60. I guessed what was going to occur during the situation Certainty (Predict)	-.117	-.063	.079	-.014	.154	-.001	-.029	.837	.030
39. I predicted what was going to happen during the event Certainty (Predict)	-.195	-.082	.084	.009	.129	.022	.044	.814	.087
6. I had the capacity to affect what was going on during the event Control (Self-control)	-.247	-.310	.085	.043	.086	.065	.030	.106	.777
17. I had the ability to influence what was happening in the incident Control (Self-control)	-.215	-.376	.133	.071	.060	.071	.032	.096	.747
22. I had the capability to control what was taking place in the situation Control (Self-control)	-.168	-.405	.099	.074	.085	.101	.015	.039	.670
Eigenvalues	14.312	7.477	5.417	3.395	3.095	2.678	2.216	1.742	1.533
% of variance	22.019	11.503	8.334	5.223	4.761	4.119	3.409	2.681	2.358

Note: **Boldfaced** = loading of .5 or higher, which are items retained in final scale. Original appraisal dimension from Smith and Ellsworth (1985) appears under item, sub-facet names appear in parentheses.

Table 3

Means, Standard Deviations, and Correlations Among Study I Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Pleasantness	52.23	18.02	-							
2. Other-Responsibility and Control	32.11	9.93	-.258**	-						
3. Situational Obstacle-Effort	20.60	8.30	-.264**	.029	-					
4. Attentional Activity	23.55	6.05	-.211**	.026	.439**	-				
5. Certainty	21.88	5.23	.315**	-.127*	-.060	.018	-			
6. Situational Control	10.91	3.74	.066	-.364**	.040	.044	.067	-		
7. Avoidance-Coping	6.62	2.70	-.192**	.020	.041	-.190**	-.122*	-.045	-	
8. Anticipatory-Coping	6.73	3.23	.202**	-.123*	.153**	.059	.297**	.056	.026	-
9. Self-Control	7.45	3.43	.312**	-.542**	.117**	.078	.201**	.287**	-.039	.217**
10. Happiness	2.43	1.62	.738**	-.162**	-.162**	-.135**	.260**	.045	-.122*	.180**
11. Fear	2.85	1.47	-.389**	-.090	.143**	.188**	-.192**	-.140**	-.012	-.076
12. Challenging	2.75	1.33	-.205**	.026	.446**	.201**	.031	.012	.053	.092
13. Anger	2.67	1.60	-.693**	.174**	.302**	.208**	-.190**	.124*	.134**	-.070
14. Shame	1.99	1.26	-.396**	-.175**	.115*	.196**	-.179**	.085	.161**	-.098
15. Frustration	3.13	1.56	-.668**	.131**	.370**	.249**	-.187**	.076	.175**	-.057
16. Hope	2.72	1.35	.422**	-.021	-.027	.033	.131**	-.163**	-.070	.136**
17. Contempt	2.25	1.31	-.245**	.155**	.232**	.187**	-.081	.081	.126*	-.001
18. Interest	2.43	1.38	.416**	.040	.049	.183**	.116*	-.024	-.152**	.104*
19. Sadness	2.25	1.31	-.535**	.055	.192**	.143**	-.228**	.006	.149**	-.092
20. Pride	2.16	1.40	.477**	-.071	.064	.045	.133**	.075	-.052**	.173**
21. Boredom	1.37	0.83	-.016	-.028	.042	-.158**	.005	-.066	.216**	.107*
22. Disgust	2.33	1.47	-.620**	.151**	.242**	.225**	-.215**	.096	.154**	-.062
23. Guilt	1.95	1.29	-.242**	-.291**	.036	.126*	-.188**	.083	.108*	-.052
24. Surprise	3.14	1.35	-.120*	.161**	.126*	.161**	-.176**	.010	.031	-.152**

Table 3 (Continued)

Means, Standard Deviations, and Correlations Among Study 1 Variables

Variable	9	10	11	12	13	14	15	16
9. Self-Control	-							
10. Happiness	.264**	-						
11. Fear	.034	-.276**	-					
12. Challenging	.082	-.191**	.165**	-				
13. Anger	-.207**	-.616**	.114**	.287**	-			
14. Shame	-.005	-.302**	.298**	.085	.357**	-		
15. Frustration	-.150**	-.578**	.209**	.386**	.768**	.406**	-	
16. Hope	.065	.476**	-.065	.018	-.416**	-.188**	-.315**	-
17. Contempt	-.051	-.135**	-.038	.120*	.321**	.115*	.300**	-.122*
18. Interest	-.112*	.353**	-.136**	.124*	-.317**	-.206**	-.242**	.376**
19. Sadness	-.162**	-.448**	.273**	.206**	.563**	.409**	.543**	-.299**
20. Pride	.206**	.465**	-.291**	.169**	-.266**	-.255**	-.283**	.338**
21. Boredom	-.037	-.032	-.102*	.004	.038	.036	.039	-.023
22. Disgust	-.174**	-.529**	.149**	.178**	.739**	.442**	.629**	-.393**
23. Guilt	.091	-.160**	.328**	.060	.146**	.618**	.189**	-.086
24. Surprise	-.151**	-.045	.166**	.111*	.140**	.174**	.153**	.063

Table 3 (Continued)

Means, Standard Deviations, and Correlations Among Study I Variables

Variable	17	18	19	20
16. Hope	-			
17. Contempt	.043	-		
18. Interest	.163**	-.269**	-	
19. Sadness	.012	.413**	-.281**	-
20. Pride	.008	-.050	.021	.002
21. Boredom	.338**	-.256**	.485**	-.214**
22. Disgust	.026	-.105*	.295**	-.230
23. Guilt	.125*	.192**	.098*	.022

Note: N=420. *p<.05, **p<.01. a = high scores indicate increased Pleasantness, b = high scores indicate increased other Other-Responsibility and Control, c = high scores indicate increased Situational Obstacle-Effort, d = high scores indicate increased Attentional Activity, e = high scores indicate increased Certainty, f = high scores indicate decreased Situational Control, g = high scores indicate increased Avoidance-Coping, h = high scores indicate increased Anticipatory-Coping, i = high scores indicate increased Self-Control

Table 4

Appraisal Dimensions and Proposed Related Constructs for Convergent Validity Study

Construct	Appraisal Dimension								
	Pleasantness	Other-responsibility /control	Situational Obstacle-Effort	Attentional Activity	Certainty	Situational Control	Avoidance-Coping	Anticipatory-Coping	Self-Control
PANAS-X	X								
Procedural Justice	X								
Causal Dimension Scale		X				X			X
Ways of Coping Checklist -R							X		
Perceived Predictability Index								X	
Causal Uncertainty Scale					X				
Generalized Self-Efficacy Scale			X						
Mindful Attention Awareness Scale				X					

Note: X = Expected high (but not 1.0) correlation.

Table 5

Study II Cognitive Appraisal Scale Factor Solution

Item	Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
52. I thought it was a joyful incident. Pleasantness (Enjoy)	.900	.015	-.031	.072	.045	.075	-.082	.047	-.073	.110
54. I thought it was an agreeable incident. Pleasantness (Pleasant)	.894	.006	-.042	.089	.085	-.076	-.077	.058	-.026	.072
32. I thought it was pleasant incident. Pleasantness (Pleasant)	.894	-.002	-.013	.077	.026	.032	-.071	.044	-.070	.086
24. I thought it was an enjoyable incident. Pleasantness (Enjoy)	.888	-.017	-.056	.094	.047	.086	-.071	.009	-.073	.093
4. I thought it was a good situation. Pleasantness (Pleasant)	.877	-.005	-.027	.029	.038	.003	-.055	.066	-.038	.101
13. I thought it was an unpleasant incident. Pleasantness (Unpleasant)	.865	-.098	-.098	-.255	.054	.091	-.032	.022	-.108	.010
28. I thought it was a bad incident. Pleasantness (Unpleasant)	.860	-.071	-.105	-.232	.058	.099	-.031	.026	-.113	.007
6. I thought it was a troublesome incident. Pleasantness (Unenjoyable)	.767	-.068	-.114	-.229	.048	.136	-.113	-.021	-.049	-.027

Table 5 (Continued)

Study II Cognitive Appraisal Scale Factor Solution

Item	Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
11. I thought it was a distressing incident. Pleasantness (Unenjoyable)	.741	-.152	-.107	-.298	.106	.145	-.092	-.029	-.083	.024
21. I thought it was a disagreeable incident. Pleasantness (Unpleasant)	.713	-.133	-.215	-.168	.091	-.045	.171	-.017	-.139	-.033
16. I felt that this was a fair situation. Legitimacy (Fair)	.900	-.004	-.120	.050	.125	-.319	-.017	.065	-.013	.129
55. I thought that this was a legitimate incident. Legitimacy (Fair)	.894	.013	-.038	.133	.122	-.291	.096	.076	-.019	.107
40. I felt that this was a justifiable incident. Legitimacy (Fair)	.894	.029	-.020	.049	.145	-.372	.042	.094	-.009	.077
44. I thought it was a revolting incident. Pleasantness (Unenjoyable)	.888	-.184	-.221	-.299	.114	-.012	.103	.023	-.126	.021
7. I felt wronged during this incident. Legitimacy (Cheated)	.877	-.219	-.236	-.131	.037	-.117	.372	.020	-.072	.038
47. Problems had to be solved before I could get what I wanted in the incident. Situation obstacle-effort (Problem)	-.078	.852	.050	.090	.014	.004	.043	.047	-.040	-.018

Table 5 (Continued)

Study II Cognitive Appraisal Scale Factor Solution

Item	Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
51. Issues had to be resolved before I could obtain what I needed during the incident. Situation obstacle-effort (Problem)	-.142	.843	.076	.127	-.017	-.023	-.002	.068	.000	-.057
57. Barriers had to be broken before I could obtain what I needed during the incident. Situation obstacle-effort (Obstacle)	.019	.833	.044	.124	-.057	.034	.023	.055	.021	-.002
27. Obstacles had to be overcome before I could get what I wanted in the incident. Situation obstacle-effort (Obstacle)	.012	.831	.014	.070	.054	-.004	.064	.083	-.056	.088
12. Hurdles had to be jumped before I could get what I required during the incident. Situation obstacle-effort (Obstacle)	-.026	.791	.034	.088	-.035	-.022	.053	.046	-.016	.106
36. Questions had to be answered before I could get what I required during the incident. Situation obstacle-effort (Problem)	-.067	.662	.048	.093	-.091	-.029	-.061	.003	.058	-.111

Table 5 (Continued)

Study II Cognitive Appraisal Scale Factor Solution

Item	Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
50. I thought I really had put myself out to take care of this incident. Situation obstacle-effort (Exert)	-.062	.506	.017	.212	.103	-.071	-.069	.122	.093	.229
17. I felt I needed to exert myself a great deal in order to handle the incident. Situation obstacle-effort (Exert)	-.193	.475	-.014	.261	.019	-.109	.000	-.024	.083	.290
34. Someone or something other than me caused the incident. Other-responsibility and control (Other-responsibility)	-.149	.047	.846	.046	-.029	.240	.096	.000	-.015	.009
45. Someone or something other than me was influencing what was going on during the incident. Other-responsibility and control (Other control)	-.141	.052	.837	.030	-.052	.077	.092	-.006	-.004	-.151
58. Someone or something other than me brought about the incident. Other-responsibility and control (Other-responsibility)	-.158	.033	.833	.041	-.058	.278	.127	-.013	.009	-.034

Table 5 (Continued)

Study II Cognitive Appraisal Scale Factor Solution

Item	Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
39. Someone or something other than me was controlling what was happening in the incident. Other-responsibility and control (Other control)	-.128	.061	.821	.044	-.065	.058	.084	.013	.002	-.221
10. Someone or something other than me created the incident. Other-responsibility and control (Other-responsibility)	-.164	-.005	.749	.071	-.017	.320	.056	-.059	-.035	.055
18. Someone or something other than me was in charge of what was taking place during the incident. Other-responsibility and control (Other control)	-.082	.142	.691	.031	.001	-.049	.015	.073	.079	-.305
37. I reflected on the incident longer. Attentional Activity (Consider)	-.104	.160	.071	.784	-.122	-.133	-.139	-.019	.042	-.045
23. I focused on the incident. Attentional Activity (Attend)	-.012	.119	-.004	.771	.122	.016	.131	.019	-.208	.012
31. I considered the incident further. Attentional Activity (Consider)	-.117	.108	.008	.760	-.048	-.234	-.099	.012	.035	.019
48. I concentrated on the incident. Attentional Activity (Attend)	-.009	.220	.021	.727	.168	-.008	.086	.088	-.173	.060

Table 5 (Continued)

Study II Cognitive Appraisal Scale Factor Solution

Item	Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
9. I thought about the incident some more. Attentional Activity (Consider)	-.185	.097	.075	.711	-.156	-.231	-.137	-.038	.068	-.016
25. I was engrossed in the incident. Attentional Activity (Attend)	.043	.111	.034	.688	-.014	.079	.116	.049	-.142	.029
14. I paid attention to the incident. Attentional Activity (Attend)	-.057	.126	.017	.682	.156	.103	.094	.049	-.124	.060
49. I understood what was happening during the incident. Certainty (Understand)	.122	.022	.024	.198	.766	-.080	.021	.231	-.019	.085
38. I was unsure about what was going on during the incident. Certainty (Uncertain)	.213	-.100	-.149	-.187	.754	.068	-.104	-.011	-.156	-.042
20. I was uncertain about what was happening in the incident. Certainty (Uncertain)	.196	-.025	-.139	-.197	.720	.050	-.145	-.029	-.171	-.053
26. I realized what was going on during the incident. Certainty (Understand)	.099	.044	.021	.237	.719	.021	.022	.147	.007	.149
1. I was unclear about what was occurring during the incident. Certainty (Uncertain)	.239	-.061	-.104	-.129	.713	.020	-.080	.017	-.085	-.011

Table 5 (Continued)

Study II Cognitive Appraisal Scale Factor Solution

Item	Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
29. I figured out what was occurring in the incident. Certainty (Understand)	-.127	.045	.128	.251	.561	-.177	.000	.150	.115	.128
41. I felt accountable for causing the incident. Other-responsibility and control (Self-responsibility)	-.054	-.040	.356	-.096	.007	.815	.096	-.051	-.002	-.205
8. I felt responsible for creating the incident. Other-responsibility and control (Self-responsibility)	.022	-.062	.342	-.115	-.008	.800	.120	-.042	-.003	-.192
30. I felt responsible for bringing about the incident. Other-responsibility and control (Self-responsibility)	-.039	-.051	.343	-.121	-.011	.800	.123	-.020	-.009	-.176
22. The incident was the result of outside influences of which nobody had control. Situational control (Situational control)	-.042	.026	.153	.032	-.059	.089	.872	-.039	.062	-.117
56. Circumstances beyond anyone's control influenced the incident. Situational control (Situational control)	.002	.016	.167	.024	-.064	.102	.868	-.018	.080	-.093

Table 5 (Continued)

Study II Cognitive Appraisal Scale Factor Solution

Item	Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
2. Factors outside everybody's control affected this incident. Situational control (Situational control)	-.095	.050	.106	.044	-.102	.076	.848	-.003	.019	-.105
53. I guessed what was going to occur during the incident. Anticipatory –coping (predict)	.105	.084	.026	.048	.136	-.034	-.021	.906	.025	.037
33. I predicted what was going to happen during the incident. Anticipatory –coping (predict)	.097	.110	-.025	.016	.102	-.033	-.036	.897	.041	.050
46. I anticipated what was going to take place during the incident. Anticipatory –coping (predict)	.080	.154	-.003	.066	.138	-.037	.000	.886	-.007	.053
42. I redirected my attention somewhere other than incident. Avoidance-coping (Redirect)	-.049	.041	-.014	-.101	-.015	-.016	.020	.029	.822	-.050
43. I tried not to focus on the incident. Avoidance-coping (Redirect)	-.173	.036	-.003	-.083	-.048	-.001	.018	.014	.769	-.047
3. I diverted my attention away from the incident. Avoidance-coping (Redirect)	-.062	.003	-.055	-.131	-.091	.067	.060	.002	.709	-.046
35. I shut out the incident. Avoidance-coping (Shut-out)	-.252	-.019	.108	-.056	-.072	-.069	.039	.012	.619	.038

Table 5 (Continued)

Study II Cognitive Appraisal Scale Factor Solution

Item	Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
15. I had the ability to influence what was happening in the incident. Self-control (Self-control)	.256	.120	-.253	.066	.065	-.216	-.147	.043	-.082	.768
19. I had the capability to control what was taking place in the incident. Self-control (Self-control)	.232	.103	-.287	.042	.068	-.192	-.128	.076	-.059	.761
5. I had the capacity to affect what was going on during the incident. Self-control (Self-control)	.256	.066	-.211	-.010	.113	-.202	-.158	.088	-.049	.749
Eigenvalues	12.374	7.221	5.224	3.335	3.198	2.552	2.271	1.749	1.506	1.345
% of variance	21.335	12.450	9.350	5.750	5.513	4.349	3.915	3.015	2.596	2.319

Note: **Boldfaced** = loading of .5 or higher, which are items retained in final scale. Appraisal dimension from Yanchus (2005) appears under item, sub-facet names appear in parentheses.

Table 6

*Parameter Estimates for CAS Pleasantness Factor, PANAS-X General Dimensions Factors, and Procedural Justice Scale (PJS)
Factor Model*

Measures	Factors				PROCEDURAL JUSTICE
	PLEASANTNESS	POSITIVE AFFECT	NERVOUSNESS	IRRITABILITY	
CA1P1	.94*	0	0	0	0
CA1P2	.89*	0	0	0	0
CA1P3	.94*	0	0	0	0
CA1P4	.90*	0	0	0	0
CA1P5	.92*	0	0	0	0
PN1PP1	0	.74*	0	0	0
PN1PP2	0	.80*	0	0	0
PN1PP3	0	.86*	0	0	0
PN1PP4	0	.83*	0	0	0
PN1N1P1	0	0	.84*	0	0
PN1N1P2	0	0	.91*	0	0
PN1N2P1	0	0	0	.98*	0
PN1N2P2	0	0	0	.71*	0
PJP1	0	0	0	0	.77*
PJP2	0	0	0	0	.83*
PJP3	0	0	0	0	.76*

Table 6 (Continued)

Parameter Estimates for CAS Pleasantness Factors, PANAS-X General Dimensions Factors, and Procedural Justice Scale (PJS) Factor Model

Factor	PLEASANTNESS	POSITIVE AFFECT	NERVOUSNESS	IRRITABILITY	PROCEDURAL JUSTICE
PLEASANTNESS	1.00				
POSITIVE AFFECT	.25*	1.00			
NERVOUSNESS	-.18*	-.13*	1.00		
IRRITABILITY	-.32*	-.25*	.72*	1.00	
PROCEDURAL JUSTICE	.47*	.19*	-.10*	-.21*	1.00

Note: * = $p < .05$.

Table 7

Parameter Estimates for CAS Pleasantness Factors and PANAS-X Specific Affect Scales (SAS) Factors Model

Measures	Factors						
	PLEASANTNESS	POSITIVE EMOTION	HOSTILITY	FEAR	GUILT	WITHDRAWN	ATTENTIVENESS
CA1P1	.94*	0	0	0	0	0	0
CA1P2	.89*	0	0	0	0	0	0
CA1P3	.95*	0	0	0	0	0	0
CA1P4	.90*	0	0	0	0	0	0
CA1P5	.92*	0	0	0	0	0	0
PN2PP1	0	.89*	0	0	0	0	0
PN2PP2	0	.84*	0	0	0	0	0
PN2PP3	0	.78*	0	0	0	0	0
PN2PP4	0	.81*	0	0	0	0	0
PN2PP5	0	.87*	0	0	0	0	0
PN2H1	0	0	.84*	0	0	0	0
PN2H2	0	0	.88*	0	0	0	0
PN2H3	0	0	.88*	0	0	0	0
PN2F1	0	0	0	.81*	0	0	0
PN2F2	0	0	0	.83*	0	0	0
PN2F3	0	0	0	.83*	0	0	0
PN2F4	0	0	0	.82*	0	0	0
PN2G1	0	0	0	0	.91*	0	0
PN2G2	0	0	0	0	.91*	0	0
PN2G3	0	0	0	0	.91*	0	0

Table 7 (Continued)

Parameter Estimates for CAS Pleasantness Factors and PANAS-X Specific Affect Scales (SAS) Factors Model

Measures	Factors						
	PLEASANTNESS	POSITIVE EMOTION	HOSTILITY	FEAR	GUILT	WITHDRAWN	ATTENTIVENESS
PN2W1	0	0	0	0	0	.77*	0
PN2W2	0	0	0	0	0	.76*	0
PN2W3	0	0	0	0	0	.83*	0
PN2W4	0	0	0	0	0	.87*	0
PN2F71	0	0	0	0	0	0	.70*
PN2F72	0	0	0	0	0	0	.80*
PN2F73	0	0	0	0	0	0	.61*

Factor Correlations:	PLEASANTNESS	POSITIVE EMOTION	HOSTILITY	FEAR	GUILT	WITHDRAWN	ATTENTIVENESS
PLEASANTNESS	1.0						
POSITIVE EMOTION	.26*	1.0					
HOSTILITY	-.42*	-.29*	1.0				
FEAR	-.16*	-.05	.60*	1.0			
GUILT	-.14*	-.23*	.57*	.50*	1.0		
WITHDRAWN	-.13*	-.22*	.57*	.53*	.59*	1.0	
ATTENTIVENESS	.00	.55*	-.08	.09*	-.12*	-.12*	1.0

Note: * = $p < .05$.

Table 8

Parameter Estimates for CAS Situation-Obstacle Effort Dimension and Generalized Self-Efficacy Scale Factor (GSES) Model

Measures	Factors	
	SITUATION-OBSTSCLE EFFORT	SELF-EFFICACY
CA2P1	.92*	0
CA2P2	.90*	0
CA2P3	.81*	0
GSP1	0	.90*
GSP2	0	.85*
GSP3	0	.90*

Factor	Correlations:	
	SITUATION-OBSTSCLE EFFORT	SELF-EFFICACY
SITUATION- OBSTSCLE EFFORT	1.0	
SELF- EFFICACY	.06	1.0

Note: * = $p < .05$.

Table 9

Parameter Estimates for CAS Other-Responsibility and Control Factor and Causal Dimension Scale (CDS) Factors Model

Measures	Factors		
	OTHER-RESPONSIBILITY	CONTROLABIITY	CAUSALITY
CA3P1	.87*	0	0
CA3P2	.91*	0	0
CA3P3	.86*	0	0
CDS2	0	.85*	0
CDS4	0	.59*	0
CDS9	0	.67*	0
CDS1	0	0	.81*
CDS5	0	0	.72*
CDS7	0	0	.62*
Factor			
Correlations:	OTHER-RESPONSIBILITY	CONTROLABIITY	CAUSALITY
OTHER-RESPONSIBILITY	1.0		
CONTROLABIITY	-.12*	1.0	
CAUSALITY	-.57*	.39*	1.0

Note: * = $p < .05$.

Table 10

Parameter Estimates for CAS Attentional Activity Factor, Mindful Attention Awareness Scale (MAAS) Factor, and PANAS-X Attentiveness Factor Model

Measure	Factors		
	ATTENTIONAL ACTIVITY	MAAS	ATTENTIVENESS
CA4P1	.87*	0	0
CA4P2	.89*	0	0
CA4P3	.89*	0	0
MAP1	0	.92*	0
MAP2	0	.82*	0
PN2F71	0	0	.77*
PN2F72	0	0	.73*
PN2F73	0	0	.62*

Factor	ATTENTIONAL ACTIVITY	MAAS	ATTENTIVENESS
ATTENTIONAL ACTIVITY	1.0		
MAAS	-.12*	1.0	
ATTENTIVENESS	.23*	.24*	1.0

Note: * = $p < .05$.

Table 11

Parameter Estimates for CAS Certainty Factor and Causal Uncertainty Scale Factors (CUS) Model

Measure	Factors		
	CERTAINTY	CUS - SITUATION	CUS - RELATION
CA5P1	.75*	0	0
CA5P2	.96*	0	0
CA5P3	.59*	0	0
CU1P1	0	.81*	0
CU1P2	0	.81*	0
CU1P3	0	.84*	0
CUS1	0	0	.71*
CUS2	0	0	.75*
CUS3	0	0	.63*

Factor	CERTAINTY	CUS - SITUATION	CUS - RELATION
CERTAINTY	1.0		
CUS - SITUATION	-.29*	1.0	
CUS - RELATION	-.25*	.65*	1.0

Note: * = $p < .05$.

Table 12

*Parameter Estimates for CAS Self-Responsibility Factor and Causal Dimension Scale (CDS)
Factors Model*

Measure	Factors		
	SELF-RESPONSIBILITY	CONTROLABIITY	CAUSALITY
CATS8	.91*	0	0
CATS30	.92*	0	0
CATS41	.94*	0	0
CDS2	0	.88*	0
CDS4	0	.56*	0
CDS9	0	.66*	0
CDS1	0	0	.81*
CDS5	0	0	.72*
CDS7	0	0	.63*

Factor	SELF-RESPONSIBILITY	CONTROLABIITY	CAUSALITY
Correlations:			
SELF-RESPONSIBILITY	1.0		
CONTROLABIITY	-.34*	1.0	
CAUSALITY	-.65*	.39*	1.0

Note: * = $p < .05$. Self-Responsibility items reversed scored: Low score equals high self-responsibility.

Table 13

Parameter Estimates for CAS Situational Control Factors and Causal Dimension Scale (CDS) Factors Model

Measure	Factors		
	SITUATIONAL CONTROL	CONTROLABIITY	CAUSALITY
CATS2	.80*	0	0
CATS22	.91*	0	0
CATS56	.90*	0	0
CDS2	0	.88*	0
CDS4	0	.55*	0
CDS9	0	.66*	0
CDS1	0	0	.84*
CDS5	0	0	.70*
CDS7	0	0	.61*

Factor	SITUATIONAL CONTROL	CONTROLABIITY	CAUSALITY
SITUATIONAL CONTROL	1.0		
CONTROLABIITY	-.79*	1.0	
CAUSALITY	-.38*	.39*	1.0

Note: * = $p < .05$.

Table 14

Parameter Estimates for CAS Anticipatory-Coping Factor and Perceived Predictability Index (PPI) Factors Model

Measures	Factors		
	ANTICIPATORY-COPING	PPI – EXTERNAL	PPI - INTERNAL
CATS33	.88*	0	0
CATS46	.87*	0	0
CATS53	.90*	0	0
PP1P1	0	.50*	0
PP1P2	0	.94*	0
PP2P1	0	0	.77*0
PP2P2	0	0	.83*

Factor	Correlations:		
	ANTICIPATORY-COPING	PPI – EXTERNAL	PPI - INTERNAL
ANTICIPATORY-COPING	1.0		
PPI – EXTERNAL	.23*	1.0	
PPI - INTERNAL	.09*	.53*	1.0

Note: * = $p < .05$.

Table 15

Parameter Estimates for CAS Avoidance-Coping Factor and Ways of Coping Checklist Revised–Avoidance Subscale Scale (WCCR – A) Factor Model

Measures	Factors	
	AVOIDANCE-COPING	WCCR - AVOIDANCE
CATS3	.59*	0
CATS42	.79*	0
CATS43	.75*	0
WCP1	0	.65*
WCP2	0	.79*
WCP3	0	.61*

Factor	AVOIDANCE-COPING	WCCR - AVOIDANCE
AVOIDANCE-COPING	1.0	
WCCR - AVOIDANCE	.39*	1.0

Note: * = $p < .05$.

Table 16

Parameter Estimates for CAS Self-Control Factor and Causal Dimension Scale (CDS) Factors Model

Measure	Factors		
	SELF-CONTROL	CONTROLABIITY	CAUSALITY
CATS5	.84*	0	0
CATS15	.91*	0	0
CATS19	.85*	0	0
CDS2	0	.87*	0
CDS4	0	.57*	0
CDS9	0	.66*	0
CDS1	0	0	.81*
CDS5	0	0	.73*
CDS7	0	0	.61*
Factor Correlations:			
	SELF-CONTROL	CONTROLABIITY	CAUSALITY
SELF-CONTROL	1.0		
CONTROLABIITY	.33*	1.0	
CAUSALITY	.53*	.39*	1.0

Note: * = $p < .05$.

Table 17

Goodness-of-Fit Indices for Cognitive Appraisal Scale CFA Models

Model	<i>df</i>	χ^2	<i>NNFI</i>	<i>CFI</i>	<i>RMSEA</i>	<i>SMRS</i>
1. Pleasantness, PANAS-X: GD, PJS	94	413**	.97	.98	.066	.044
2. Pleasantness, PANAS-X: SAS	349	1956.66**	.95	.95	.078	.058
3. Situational Obstacle-Effort, GSES	8	9.13	1.00	1.00	.013	.013
4. Other-Responsibility & Control, CDS	24	143.49	.96	.97	.080	.058
5. Attentional Activity, MAAS, PANAS-X - Attentiveness	17	24.85	1.00	1.00	.024	.021
6. Certainty, CUS	24	137.44**	.96	.97	.077	.050
7. Self-Responsibility, CDS	24	113.77**	.97	.98	.067	.051
8. Situational Control, CDS	24	67.89**	.99	.99	.048	.04
9. Anticipatory-Coping, PPI	11	29.42**	.99	.99	.045	.031
10. Avoidance-Coping, WCCR - A	8	19.37*	.98	.99	.042	.028
11. Self-Control, CDS	34	68.38**	.98	.99	.048	.037

Note: PANAS-X = Positive and Negative Affect Schedule Expanded (GD = General Dimension scales; SPS = Specific Affect Scales), PJS = Procedural Justice Scale, GSES = Generalized Self-Efficacy Scale, CDS = Causal Dimension Scale, MAAS = Mindful Attention Awareness Scale, CUS = Causal Uncertainty Scale, PPI = Perceived Predictability Index, WCCR - A = Ways of Coping Checklist Revised – Avoidance subscale, *df* = model degrees of freedom, *NNFI* = Non-Normed Fit Index, *CFI* = Comparative Fit Index, *RMSEA* = Root mean square error of approximation, *SMRS* = standardized root mean squared residual. * $p < .05$, ** = $p < .01$.

Table 18

Summary of Correlations between CAS Dimensions and Related Constructs

Related Constructs	Cognitive Appraisal Scale Dimensions				
	Pleasantness	Situational Obstacle-Effort	Other- Responsibility and Control	Attentional Activity	Certainty
PANAS-X: Positive Affect	.25*	.12*	-.02	.07	.08*
PANAS-X: Nervousness	-.18*	.06	-.02	.16*	-.18*
PANAS-X: Irritability	-.32*	.10*	.10*	.21*	-.15*
PANAS-X: Positive Emotion	.26*	.11*	-.01	.06	.07
PANAS-X: Hostility	-.42*	.14*	.18*	.24*	-.18*
PANAS-X: Fear	-.16*	.09*	.04	.17*	-.16*
PANAS-X: Guilt	-.14*	.03	-.13*	.17*	-.13*
PANAS-X: Withdrawn	-.13*	.10*	-.03	.17*	-.12*
Procedural Justice Scale	.47*	.08*	-.32*	-.04	.24*
Generalized Self-Efficacy Scale	.33*	.06	-.10	-.07	.20*
Mindful Attention Awareness Scale	.03	-.11*	.00	-.12*	.16*
PANAS-X: Attentiveness	.00	.12*	.10*	.23*	.06
Causal Uncertainty Scale: Situation	-.16*	.11*	.09	.16*	-.29*
Causal Uncertainty Scale: Relation	-.24*	.17*	.11	.14*	-.25*
Causal Dimension Scale: Controllability	.09*	.06	-.12*	.13*	.16*
Causal Dimension Scale: Causality	.43*	.04	-.57*	.10*	.21*
Perceived Predictability Index: External	-.08*	.20*	.00	.16*	.05
Perceived Predictability Index: Internal	-.34*	.25*	.05	.37*	-.13*
Ways of Coping Checklist: Avoidance Subscale	-.67*	.23*	.16*	.24*	-.27*

Table 18 (Continued)

Summary of Correlations between CAS Dimensions and Related Constructs

Related Constructs	Cognitive Appraisal Scale Dimensions				
	Self-Responsibility	Situational Control	Anticipatory-Coping	Avoidance-Coping	Self-Control
PANAS-X: Positive Affect	.01	.06	.09*	.02	.12*
PANAS-X: Nervousness	-.14*	.02	.08*	.13*	.02
PANAS-X: Irritability	-.05	.03	.03	.12*	-.09*
PANAS-X: Positive Emotion	.01	.03	.10*	.02	.12*
PANAS-X: Hostility	-.02	-.04	.03	.15*	-.10*
PANAS-X: Fear	-.05	.09	.08*	.10*	-.03
PANAS-X: Guilt	-.38*	-.10*	.00	.07	.18*
PANAS-X: Withdrawn	-.14*	.00	.05	.16*	.03
Procedural Justice Scale	-.22*	-.01	.10*	-.07	.48*
Generalized Self-Efficacy Scale	.07	-.03	.20*	.01	.23*
Mindful Attention Awareness Scale	.11*	-.06	-.06	-.18*	-.01
PANAS-X: Attentiveness	.03	.11*	.10*	-.03	.00
Causal Uncertainty Scale: Situation	.00	.03	-.12*	.08	-.08*
Causal Uncertainty Scale: Relation	-.06	-.03	-.05	.10*	-.07
Causal Dimension Scale: Controllability	-.34*	-.79*	.18*	-.10*	.33*
Causal Dimension Scale: Causality	-.65*	-.38*	.14*	-.06	.53*
Perceived Predictability Index: External	-.11*	-.02	.23*	.12*	.12*
Perceived Predictability Index: Internal	-.16*	.10*	.09*	.00	.02
Ways of Coping Checklist: Avoidance Subscale	-.14*	.01	-.07	.39*	-.21

Note: * = $p < .05$; ** = $p < .01$. **Boldfaced** = Predicted relationship; *Italics* = Non-predicted relationship. Self-Responsibility items reversed scored: Low score equals high self-responsibility.

Table 19

Goodness-of-Fit Indices for CAS and NES Discriminant Validity CFA Models

Model	<i>df</i>	χ^2	<i>NNFI</i>	<i>CFI</i>	<i>RMSEA</i>	<i>SMRS</i>	Versus target model	
							$\Delta \chi^2$	Δdf
Pleasantness Target Model	41	167.50	.98	.99	.062	.033		
Φ Pleasantness, NES = 1.00	43	1556.52	.77	.82	.22	.21	1389.02**	2
Situation Obstacle-Effort Target Model	24	92.54	.98	.98	.061	.035		
Φ Situation Obstacle-Effort, NES = 1.00	26	1741.18	.43	.59	.27	.20	1648.64**	2
Other-Responsibility Target Model	24	88.77	.98	.98	.059	.033		
Φ Other-Responsibility, NES = 1.00	26	1760.19	.43	.59	.27	.20	1671.42**	2
Attentional Activity Target Model	24	101.13	.97	.98	.064	.037		
Φ Attentional Activity, NES = 1.00	26	1744.75	.44	.59	.27	.20	1643.62**	2
Certainty Target Model	24	101.10	.97	.98	.064	.040		
Φ Certainty, NES = 1.00	26	1000.21	.62	.73	.21	.15	899.11**	2
Self-Responsibility Target Model	24	92.23	.98	.98	.061	.035		
Φ Self-Responsibility, NES = 1.00	26	2349.61	.28	.48	.30	.22	2257.38**	2
Situational Control Target Model	24	91.85	.98	.98	.061	.032		
Φ Situational Control, NES = 1.00	26	1661.46	.45	.60	.26	.20	1569.61**	2

Table 19 (Continued)

Goodness-of-Fit Indices for CAS and NES Discriminant Validity CFA Models

Model	<i>df</i>	χ^2	<i>NNFI</i>	<i>CFI</i>	<i>RMSEA</i>	<i>SMRS</i>	Versus target model	
							$\Delta \chi^2$	Δdf
Anticipatory-Coping Target Model	24	90.78	.98	.98	.060	.032		
Φ Anticipatory-Coping, NES = 1.00	26	1772.02	.42	.58	.27	.20	1681.24**	2
Avoidance-Coping Target Model	24	681.82	.97	.98	.063	.036		
Φ Avoidance-Coping, NES = 1.00	26	98.20	.73	.80	.18	.13	583.62**	2
Self-Control Target Model	24	93.17	.97	.98	.061	.032		
Φ Self-Control, NES = 1.00	26	1628.30	.46	.61	.26	.20	1535.13**	2

Note: NES = Need to Evaluate Scale. *df* = model degrees of freedom, *NNFI* = Non-Normed Fit Index, *CFI* = Comparative Fit Index, *RMSEA* = Root mean square error of approximation, *SMRS* = standardized root mean squared residual. * $p < .05$, ** = $p < .01$.

Table 20

Goodness-of-Fit Indices for CAS and NCS Discriminant Validity CFA Models

Model	<i>df</i>	χ^2	<i>NNFI</i>	<i>CFI</i>	<i>RMSEA</i>	<i>SMRS</i>	Versus target model	
							$\Delta \chi^2$	Δdf
Pleasantness Target Model	43	138.07	.99	.99	.053	.025		
Φ Pleasantness, NCS = 1.00	44	5061.15	.37	.49	.41	.33	4923.08**	1
Situation Obstacle-Effort Target Model	26	65.21	.99	.99	.043	.024		
Φ Situation Obstacle-Effort, NCS = 1.00	27	1708.19	.60	.70	.26	.20	1642.98**	1
Other-Responsibility Target Model	26	53.02	.99	1.00	.036	.020		
Φ Other-Responsibility, NCS = 1.00	27	1722.1	.60	.70	.26	.20	1669.08**	1
Attentional Activity Target Model	26	65.11	.99	.99	.043	.021		
Φ Attentional Activity, NCS = 1.00	27	1694.37	.61	.71	.26	.20	1629.26**	1
Certainty Target Model	26	56.98	.99	.99	.039	.021		
Φ Certainty, NCS = 1.00	27	958.91	.75	.81	.20	.15	901.93**	1
Self-Responsibility Target Model	26	62.76	.99	.99	.042	.022		
Φ Self-Responsibility, NCS = 1.00	27	2315.6	.48	.61	.28	.22	2252.84**	1
Situational Control Target Model	26	52.88	.99	1.00	.036	.022		
Φ Situational Control, NCS = 1.00	27	1614.88	.62	.71	.25	.20	1562.00**	1

Table 20 (Continued)

Goodness-of-Fit Indices for Cognitive Appraisal Scale Discriminant Validity CFA Models

Model	<i>df</i>	χ^2	<i>NNFI</i>	<i>CFI</i>	<i>RMSEA</i>	<i>SMRS</i>	Versus target model	
							$\Delta \chi^2$	Δdf
Anticipatory-Coping Target Model	26	48.34	.99	1.00	.033	.017		
Φ Anticipatory-Coping, NCS = 1.00	27	1718.34	.60	.70	.26	.20	1670.00**	1
Avoidance-Coping Target Model	26	57.53	.99	.99	.039	.021		
Φ Avoidance-Coping, NCS = 1.00	27	642.10	.87	.87	.17	.13	401.79**	1
Self-Control Target Model	26	64.52	.99	.99	.043	.027		
Φ Self-Control, NCS = 1.00	27	1601.02	.62	.72	.25	.20	1536.50**	1

Note: NCS = Need for Cognition Scale. *df* = model degrees of freedom, *NNFI* = Non-Normed Fit Index, *CFI* = Comparative Fit Index, *RMSEA* = Root mean square error of approximation, *SMRS* = standardized root mean squared residual. * $p < .05$, ** = $p < .01$.

Table 21

Multiple Regression Results Predicting Hostility from the CAS Unit-Weighted Composites

Predictor	β	<i>t</i> -value	R^2	<i>F</i>
Pleasantness	-0.56**	-20.64**		
Situation Obstacle-Effort	0.17**	6.74**		
Other-Responsibility and Control	0.18**	5.93**		
Attentional Activity	0.15**	5.87**		
Certainty	-0.03	-0.97		
Self-Responsibility	-0.05	-1.59		
Situational Control	-0.24**	-9.57**		
Anticipatory-Coping	0.04	1.49		
Avoidance-Coping	0.08**	3.34**		
Self-Control	0.00	0.10		
			.59	108.37**

Note: * = $p < .05$, ** = $p < .01$. Self-Responsibility items reversed scored: Low score equals high self-responsibility.

Table 22

Multiple Regression Results Predicting Despondency from CAS Unit-Weighted Composites

Predictor	β	<i>t</i> -value	R^2	<i>F</i>
Pleasantness	-0.41**	-14.67**		
Situation Obstacle-Effort	0.06*	2.23*		
Other-Responsibility and Control	-0.04	-1.29		
Attentional Activity	0.18**	6.68**		
Certainty	-0.08**	-3.24**		
Self-Responsibility	-0.53**	-17.42**		
Situational Control	-0.01	-0.53		
Anticipatory-Coping	-0.03	-1.23		
Avoidance-Coping	0.07**	2.89**		
Self-Control	-0.02	-0.51		
			.56	101.65**

Note: * = $p < .05$, ** = $p < .01$. Self-Responsibility items reversed scored: Low score equals high self-responsibility.

Table 23

Multiple Regression Results Predicting Excitement from CAS Unit-Weighted Composites

Predictor	β	<i>t-value</i>	R^2	<i>F</i>
Pleasantness	0.81**	31.71**		
Situation Obstacle-Effort	0.09**	3.56**		
Other-Responsibility and Control	0.08**	2.75**		
Attentional Activity	0.11**	4.52**		
Certainty	-0.04	-1.86		
Self-Responsibility	0.08**	2.71**		
Situational Control	0.05*	2.25*		
Anticipatory-Coping	0.04	1.90		
Avoidance-Coping	0.06**	2.45**		
Self-Control	0.09**	3.02**		
			.63	133.34**

Note: * = $p < .05$, ** = $p < .01$. Self-Responsibility items reversed scored: Low score equals high self-responsibility.

Table 24

Multiple Regression Results Predicting Embarrassment from CAS Unit-Weighted Composites

Predictor	β	<i>t</i> -value	R^2	<i>F</i>
Pleasantness	-0.27**	-7.76**		
Situation Obstacle- Effort	0.11**	3.23**		
Other- Responsibility and Control	-0.07	-1.81		
Attentional Activity	0.12**	3.69**		
Certainty	-0.05	-1.61		
Self-Responsibility	-0.32**	-8.32**		
Situational Control	-0.08**	-2.45**		
Anticipatory- Coping	-0.03	-1.01		
Avoidance-Coping	0.14**	4.48**		
Self-Control	0.00	0.06		
			.30	33.97**

Note: * = $p < .05$, ** = $p < .01$. Self-Responsibility items reversed scored: Low score equals high self-responsibility.

Table 25

Multiple Regression Results Predicting Fear from CAS Unit-Weighted Composites

Predictor	β	<i>t</i> -value	R^2	<i>F</i>
Pleasantness	-0.51**	-15.02**		
Situation Obstacle-Effort	-0.13**	-4.15**		
Other-Responsibility and Control	-0.03	-0.76		
Attentional Activity	0.09**	2.69**		
Certainty	-0.12**	-3.75**		
Self-Responsibility	-0.19**	-5.15**		
Situational Control	0.21**	6.84**		
Anticipatory-Coping	0.07*	2.35*		
Avoidance-Coping	-0.06	-1.80		
Self-Control	0.07	1.90		
			.34	41.40**

Note: * = $p < .05$, ** = $p < .01$. Self-Responsibility items reversed scored: Low score equals high self-responsibility.

Table 26

Multiple Regression Results Predicting Surprise from CAS Unit-Weighted Composites

Predictor	β	<i>t</i> -value	R^2	<i>F</i>
Pleasantness	-0.08*	-2.07*		
Situation Obstacle-Effort	0.02	0.71		
Other-Responsibility and Control	0.06	1.52		
Attentional Activity	0.35**	9.97**		
Certainty	-0.19**	-5.45**		
Self-Responsibility	-0.05	-1.22		
Situational Control	0.07*	1.96*		
Anticipatory-Coping	-0.13**	-3.96**		
Avoidance-Coping	-0.01	-0.27		
Self-Control	0.02	0.47		
			.24	24.35**

Note: * = $p < .05$, ** = $p < .01$. Self-Responsibility items reversed scored: Low score equals high self-responsibility