Uncovering Relationships Between Appraisal, Emotion, and Coping: Emotion as a Process

By

Jennifer Yih

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Approved:

Craig A. Smith, Ph.D.
Leslie D. Kirby, Ph.D.
Terry A. Maroney, J.D.
Adriane E. Seiffert, Ph.D.
James H. Steiger, Ph.D.

To my beloved father, Thomas.

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CHAPTER I

INTRODUCTION

In the past century, researchers across various domains of psychology have studied some combination of stress, coping, and emotion through the lenses of clinical, cognitive, and social psychology (Arnold, 1960; Compas, Connor-Smith, Saltzmen, Thomson, & Wadsworth, 2001; Folkman & Moskowitz, 2000a; Frijda, 1986; Izard, 1977; Lazarus, 1991; Lazarus & Folkman, 1984; Roseman, 2013; Sapolsky, 2009; Scheier & Carver, 1985; Smith & Kirby, 2011; Smith & Lazarus, 1990; Tugade, Fredrickson, & Barrett, 2004). Two bodies of research have emerged – one concentrated on stress and coping, and another more broadly focused on emotion. Unfortunately, the separate literatures on emotion and coping have failed to adequately converge. Rather, researchers often study emotion generation and experience, or emotion regulation and coping – all the while neglecting how emotion generation, experience, and coping influence one another across the process of emotion. By considering the cognitions that gave rise to a specific emotional experience, we gain a sharper understanding of how these emotions are experienced and regulated. In spite of one prominent psychologist, Richard Lazarus, making major theoretical contributions in both fields (Lazarus & Folkman, 1984; Smith & Lazarus, 1990), the relationship between emotion and coping has been understudied. Lazarus (1991) considered both emotion and coping to be adaptational processes that help humans navigate their worlds, proposing that discrete emotions could be distinguished by the way they motivate specific behaviors related to coping. In this dissertation, I introduce the issue and then describe a set of three studies that begins to map out the relationships between appraisal, emotional experience, and coping.

The Role of Appraisal in Emotion

Historically, researchers have defined emotion through the use of components (James, 1884; Mulligan & Scherer, 2012). To explore the definition of emotion, Izard (2010) surveyed 35 distinguished emotion researchers, and these scientists agreed that multiple components form the structure of emotions. Any emotion should have the following components to qualify as a discrete emotion: a component of subjective experience, which refers to whether an emotion feels good or bad; a component of motivational behavior, or an action tendency; a component of physiological reactivity to prepare the body for action; and a component of emotional expression as observed in the body and the face (Gross & Barrett, 2011; Izard, 2010).

Emotion functions as a response to meaning derived from how the environment relates to one's goals and commitments (Lazarus, 1991; Roseman & Smith, 2001). According to appraisal theory, the elicitation mechanism of emotion is cognitive appraisal, which refers to evaluations of specific events and situations in relation to oneself (Lazarus, 1991; Moors, 2013, 2014). Although there are many variations of appraisal theory, the basic underlying premise is that emotions are adaptive responses to meaning that reflect appraisals of the environment that are significant for the individual's well-being (Moors, Ellsworth, Scherer, & Frijda, 2013; Smith & Lazarus, 1990).

How do appraisal and emotion influence behavior? The human brain has been compared to a computer processor with emotion as the key mechanism that allows for response to urgent needs (Simon, 1967). According to appraisal theory, appraisals are the rules that allow the system to operate by relating situational circumstances and personal characteristics to elicit emotional experiences (Frijda & Swagerman, 1987; Lazarus, 1991; Roseman & Smith, 2001; Smith & Kirby, 2011). Appraisals serve as a monitoring mechanism that alerts the system to

external stimuli that may be motivationally relevant or concern the individual. In this way, emotion can interrupt what is going on to direct attention towards the situation at hand and make meaning of it. Other times, emotion can reinforce and sustain, rather than interrupt, ongoing activity to maintain attention. Furthermore, upon evaluation of the situation, appraisals dictate how the system will tend to respond to and cope with these situations – thus, appraisals map onto the action tendencies of emotions (Frijda, Kuipers, & ter Schure, 1989; Moors, 2014; Roseman, 2013; Scherer, 2009).

Expanding on the motivational component of emotion, emotion has been described as a "felt action tendency" (Arnold, 1960). An action tendency is the motivation or urge to engage in a particular behavior (Frijda, 1986; Roseman, 2013; Smith & Lazarus, 1990). Importantly, however, individuals can suppress the action tendency associated with any given emotional experience and instead enact a variety of coping behaviors (Smith & Lazarus, 1990). Although there is flexibility in the response patterns following the elicitation of an emotion, action tendencies have precedence in the control of action and often override other actions, concerns, and goals (Frijda, 1986, 2007). Thus, action tendencies are motivational "urges" that guide effective behavior by encouraging particular responses to specific emotional experiences (Frijda, 1988). Though empirical research has found reliable associations between patterns of appraisals and discrete emotional experiences (Ellsworth & Smith, 1988; Moors & Scherer, 2013; Roseman & Smith, 2001; Smith & Ellsworth, 1985), the literature has generally failed to explain how action tendencies relate to the actual coping behaviors used in response to experiences of emotion.

The Role of Emotion in Coping

Patterns of appraisals of the person-environment relationship differentiate among discrete emotional experiences (Smith & Ellsworth, 1985; Ellsworth & Smith, 1988; Scherer, 2000). Previous research examined the appraisal patterns of certain emotions, especially for negative emotions such as anger, guilt, fear, anxiety, and sadness (Smith & Lazarus, 1990). Less is known about the appraisal patterns that distinguish positive emotions (but see Ellsworth & Smith, 1988). Regardless of valence, uncovering the appraisal components of a broader range of emotions is critical because it will shed light on how specific emotions may differentially influence behavior and coping.

Emotions are tied to action tendencies that likely encourage particular coping behaviors. Coping is defined as behavioral and cognitive processes that are responses intended to regulate the cognitions, emotions, behaviors, and physiological reactivity that result from stress and emotion (Compas et al., 2001; Eisenberg, Fabes, & Guthrie, 1997; Lazarus & Folkman, 1984; Skinner & Wellborn, 1994). Smith and Kirby (2011) distinguish between an individual's actual circumstances and ideal circumstances, or desires and goals; in this framework, problem-focused coping and accommodation-focused coping are two types of coping that attempt to reduce the discrepancy between what the individual has and what the individual wants, albeit through different mechanisms. Appraisals of problem-focused coping potential refer to the ability to change the situation (or what the individual has), whereas appraisals of accommodation-focused coping potential refer to the ability to shift desires and goals (or what the individual wants; Smith & Kirby, 2011). Importantly, accommodation-focused coping is different from emotion-focused coping potential, which refers to the ability to regulate emotional responses to a situation (Smith & Lazarus, 1993). Appraisals of coping potential are related to the action tendencies of different

emotions. For example, the positive emotion of determination is associated with the appraisal of high problem-focused coping potential, and thus, determination motivates perseverance and engagement (Kirby et al., 2014). In contrast, sadness is associated with low problem-focused coping potential, which is why individuals experiencing sadness tend to cope by withdrawing from the situation at hand instead of trying to change it (Smith & Lazarus, 1993). More research is needed to explore how other negative and positive emotions potentiate specific coping behaviors.

Although theorists have underlined the need for a framework of studying emotion and coping that links action tendencies to coping behavior, such a model is yet to fully materialize (Smith & Lazarus, 1990; Smith & Kirby, 2011). However, researchers have begun making significant strides in the right direction. Folkman and Lazarus (1985) found that undergraduate students experienced a complex variety of emotions before and after taking exams, as well as before and after finding out their grades on the exam. Furthermore, the use of problem-focused coping was more common before taking exams, whereas emotion-focused coping was more prevalent before receiving grades (Folkman & Lazarus, 1985). Another study by Chang and DeSimone (2001) showed how the experience of hope is associated with active coping. Similarly, Roseman's (2013) emotion system model proposes unique behavioral, expressive, and phenomenological components of a range of negative and positive emotions, and also lists distinct "emotivational" goals related to each emotion and strategies for coping associated with each emotional experience. Motivational goals refer to the goals that an individual wants to pursue when an emotion is experienced (Roseman, 2013). In this model, emotions and their motivational goals organize strategies for coping, but the proposed strategies are lacking in detail. For example, frustration is proposed to be associated with the motivational goal of

overcoming and the strategy of moving against the stimulus, whereas pride is associated with the motivational goal of recognition and dominance and the strategy of moving toward oneself (Roseman, 2013). Roseman's (2013) proposed coping strategies for each emotion are essentially descriptions of approach versus avoid motivation. Nonetheless, this model is an improvement towards the integration of emotion and coping.

At least two studies have attempted to better understand relationships between appraisals, emotions, and coping. First, in a study of Italian high school students preparing for their exit exams, Schmidt, Tinti, Levine, and Testa (2010) looked at relationships between appraisals, emotions, and the use of different emotion regulation strategies prior to taking the exam. Using exploratory factor analysis, the investigators reduced a broad set of 18 appraisals and 18 emotions to 3 appraisals (importance, coping potential, and external control) and 3 emotions (frustration/powerlessness, positive emotion, and anxiety/fear) which were then used to predict coping. Frustration/powerlessness was related to the use of distancing, drugs, and suppression, whereas anxiety/fear was associated with engagement, the inability to distance oneself from the situation, and the use of drugs. Finally, positive emotion was related to the use of cognitive reappraisal and problem-focused coping strategies.

Second, in a study on coping during athletic performance, Nicholls, Polman, and Levy (2012) administered surveys of appraisals, emotions, and coping before and after athletic competition to tap into subjective experience and coping at these two time points. In terms of subjective experience, stress appraisals were assessed, as well as negative and positive emotions. The survey of appraisals and emotions was limited in that it only included seven appraisals that fell under three categories: motivational relevance, relational meaning, and controllability. Moreover, the surveys administered to participants only measured five emotions: anger, anxiety,

resignation, excitement, and happiness. These emotions were then combined to create two categories—negative versus positive emotion. A path analysis demonstrated that appraisals of stressfulness prior to athletic competition were strongly correlated with the experience of pre-competition negative emotions. Appraisals of threat were a mediator of this relationship, and in turn, the experience of negative emotions was positively correlated with the use of disengagement-oriented coping during competition. In contrast, appraisals of challenge, or opportunity rather than threat, positively correlated with the use of task-oriented coping during competition, and the experience of positive emotions mediated this relationship.

One major limitation of both the Nicholls et al. (2012) and Schmidt et al. (2010) studies is the lack of specificity in studying appraisals and emotional experiences. Importantly, not all negative emotions motivate the same behavior, and similarly, positive emotions are not uniform in the behaviors that they prompt (Roseman, 2013; Smith, Tong, & Ellsworth, 2014). Likewise, theories of emotion advocate for more appraisals than what is represented in these studies (Roseman, 2013; Scherer, 2000; Smith & Lazarus, 1990). Thus, future research should improve upon this previous work by including a broader range of appraisals, emotions, and coping behaviors.

Review of the literature begs the question – how do appraisals influence emotion and coping, and how do these emotional experiences and coping behaviors then influence one another? Mapping out the components of the emotion process and then relating them to one another would shed much needed light on the adaptational process and its recursive nature, from initial elicitation to coping to a new cycle of emotion generation and regulation.

The Current Studies

Three studies were designed to investigate how appraisals influence emotion and coping; how emotions influence coping; and how coping then influences subsequent emotional experiences. Study 1 was a retrospective survey of appraisals, emotions, and coping. Participants completed an extensive survey consisting of a writing prompt reflecting on a recent negative or positive emotional experience, followed by multiple questionnaires. The questionnaires included an assessment of appraisals associated with the situation and of emotions experienced in response to this situation. Moreover, there were also questionnaires assessing what the participant wanted to do in response to the situation, as well as how the participant actually coped with the situation. Study 2 was designed to observe the effect of experimentally manipulating appraisals on emotion and coping. Specifically, appraisals of coping potential were manipulated to test how appraisals of coping potential influence the experience of emotions and the use of coping strategies during the learning of a novel and difficult task. Participants were randomly assigned to either a high or low coping potential group, and appraisals of coping potential were manipulated by setting different expectations about task difficulty depending on condition. Finally, Study 3 was a prospective longitudinal survey study of the relationships between appraisal, emotion, and coping. All participants were surveyed on appraisals, emotions, and the use of coping behaviors at four time points across two months during an academic semester; these time points occurred before taking and upon receiving grades on two exams. By using a prospective longitudinal design, I observed how these constructs actually unfolded and influenced one another outside of the lab setting.

The overall goal of the current dissertation was to begin to address the gap in the literature between emotion and coping. Several theorists have hinted at the need for an approach

to emotion that outlines the complete process of emotion and acknowledges the coping process (Ellsworth, 2013; Folkman, 1997; Folkman & Lazarus, 1985, 1988; Folkman & Moskowitz, 2000b; Gross & Thompson, 2009; Lazarus, 1991, 1993; Lazarus & Folkman, 1984; Moors et al., 2013; Smith & Kirby, 2011; Tugade & Fredrickson, 2004). Research on emotion and coping is yet to specify the mechanisms through which emotions impact coping behavior, but the current dissertation suggests that different appraisal patterns elicit separate emotional experiences and that these emotions prompt unique motivational goals that then influence subsequent coping behaviors. This process is likely recursive such that different coping behaviors may then lead to unique appraisal patterns and emotional experiences. Indeed, emotion generation and emotion regulation are conjoined in almost every emotional experience (Gross et al., 2011a, 2011b). Thus, studying emotion without coping, or coping without emotion, results in an incomplete interpretation of the adaptational process. The current dissertation addressed this issue by studying the relationships between appraisals, emotions, and coping using multiple methods to capitalize on the strengths of each research design.

CHAPTER II

STUDY I

Theories of emotion tend to differentiate negative emotions and generalize positive emotions (Ekman, 1992; Fredrickson, 2001; Izard, 1977), with research that expands beyond the typical repertoire of negative emotions often only focusing on differences between happiness and negative emotions (Frijda, 1986; Hunsinger, Isbell, & Clore, 2011; Isen, Daubman, & Nowicki, 1987; Isen, Johnson, Mertz, & Robinson, 1985; Larsen & Ketelaar, 1991; Martin, Ward, Achee, & Wyer, 1993; Storbeck & Clore, 2005). From the framework of appraisal theory, patterns of appraisals differentiate among discrete emotional experiences (Scherer, 2000; Smith & Ellsworth, 1985). In turn, emotions then prompt action tendencies and motivational goals that encourage particular coping behaviors (Roseman, 2013). Yet, research has failed to understand how different negative and positive emotions potentiate coping.

The aim of Study 1 was to explore how a wide variety of appraisals, emotions, and coping behaviors are connected, as no empirical studies to date have adequately studied the associations between these constructs. Identifying the appraisal patterns of specific emotions, or replicating previously observed patterns, and then studying how these emotions affect coping will inform the study of emotion differentiation while also mapping out the complete process of adaptation. Therefore, in Study 1, I used a retrospective survey of appraisals, emotions, motivations, and coping to investigate how emotions are differentially associated with unique patterns of appraisal, as well as different patterns of motivation and coping. A priori hypotheses regarding appraisal, motivational, and coping patterns were generated for 8 negative emotions

and 12 positive emotions. Previous research on appraisal and negative emotion (Ellsworth & Smith, 1988; Keltner & Buswell, 1997; Silvia & Brown, 2007; Smith & Ellsworth, 1985; Tangney & Miller, 1996; Tracy & Robins, 2006) inspired the set of negative emotions included in Study 1. The positive emotions included in Study 1 were largely chosen from Smith et al.'s (2014) discussion of the need to differentiate positive emotions, which recommended a set of positive emotions for future study. Thus, each emotion was hypothesized to be associated with a distinct pattern of appraisals.

Along with hypotheses on appraisal-emotion relationships, each emotion was hypothesized to prompt certain motivational goals, as described by Roseman (2013). Finally, the motivational goals associated with each emotion were hypothesized to predict distinct coping strategies. Different motivational goals, which should link back to distinct patterns of appraisals and emotions, should be associated with certain coping strategies. In other words, I hypothesized coherence between matching motivational goals and coping strategies (e.g., wanting to get away from the situation should be related to coping via physical disengagement). However, overarching attitudes, beliefs, commitments, goals, and needs may intervene such that motivational goals are regulated (Smith, 1991). To reduce the reader's cognitive load, I discuss the models and predictions for each specific emotion while presenting the results for that emotion.

Method

Participants and Design

A total of 346 participants (76.30% female) were drawn from two different samples: undergraduate students at Vanderbilt University (n = 215, 76.28% female), as well as members of the community (n = 131, 77.10% female). Participants ranged in age from 18 to 85 years old (M = 24.38, SD = 11.61). On average, the undergraduate student sample (M = 19.31, SD = 1.26) was younger than the community sample (M = 32.69, SD = 15.59; $t(399) = -8.60$, $p < .001$). The student sample was obtained using the Sona Psychology Research Sign-Up system at Vanderbilt University, whereas the community sample was obtained using advertisements posted via email and in online forums including sites that call for research participants, Craigslist, and Twitter. Students were compensated for their research participation with research credits, whereas the community sample volunteered and did not receive any compensation for their participation. The Vanderbilt University Institutional Review Board approved Study 1.

Each participant completed an online survey. The survey began with a writing task, and each participant was randomly assigned to one of four writing prompts: *Harm*, *Threat*, *Benefit*, or *Opportunity*. The rationale for the use of these prompts was to ensure that participants would read these broad situational parameters and write about diverse experiences that tap into a wide range of emotional experiences (i.e., harm-related emotions, threat-related emotions, benefit-related emotions, and opportunity-related emotions; see Lazarus, 1991; Smith & Kirby, 2011). Thus, the writing prompts were intended to provide substantial variability in terms of emotional experience; I wanted to see unique patterns of emotion being produced from these prompts, rather than just one prototypical emotion for each condition.

Materials

All participants completed a survey that consisted of one of four writing prompts, designed to ensure that a broad range of experiences and emotional reactions was elicited across the sample, followed by four questionnaires that respectively measured: 1) appraisals, 2) emotions, 3) motivational goals, and 4) coping strategies. Demographic variables, specifically age and sex, were also included at the start of the survey. The survey data were collected and managed using REDCap (Research Electronic Data Capture) tools hosted at Vanderbilt University (Harris et al., 2009).

Emotion Prompts. The writing task asked participants to reflect on a recent experience that happened in the past week. Participants wrote about an experience that fit their condition's description as explained in the instructions of the writing prompt (Table 1). *Harm* described a situation in which something bad had actually happened, whereas *Threat* described a situation in which something bad might have happened. Similarly, *Benefit* described a situation in which something good had actually happened, whereas *Opportunity* described a situation in which good might happen. This experience was the focus for the rest of the survey.

Appraisals. Appraisals were assessed using a novel 16-item questionnaire that measured 15 different appraisals on a Likert scale (*1 = Not at all* and *9 = Extremely*; Table 2). There were 11 appraisal items adapted from existing appraisal items (Scherer, 1993; Shiota, Keltner, & Mossman, 2007; Smith & Lazarus, 1993; Tong, 2015): motivational relevance, which captures how relevant a situation is to one's goals; motivational congruence, referring to how congruent a situation is with one's goals; self-accountability, which refers to how responsible the individual is for the situation at hand; other-accountability, which captures how someone or something else is responsible for the situation at hand; problem-focused coping potential, or the ability to attend

to the situation and potentially change it; emotion-focused coping potential, referring to the ability to regulate emotional responses to the situation; future expectancy, which captures how congruent with one's goals the individual expects the situation to turn out; urgency, or how much the situation required immediate action; vastness, which refers to the involvement of something that extends beyond the individual; goal attainment, or the extent to which the situation involved the fulfillment of one's goals; and involvement of the unknown, which is similar to conceptualizations of certainty and refers to how much something unknown or unknowable was involved the situation.

Four new appraisal items were included to characterize the appraisal patterns of a broader range of emotions because existing appraisal models have failed to adequately capture differences between emotions, especially positive emotions (Smith et al., 2014). Three of these items reflected the social nature of appraisal, as described by Scherer (1993): social acceptability, or how acceptable the situation is; positive aspect of self, which refers to how much the situation exposed a positive aspect of the individual; and negative aspect of self, which captures how much the situation exposed a negative aspect of the individual. The inclusion of these three appraisals attempted to provide the literature on appraisal research with more of a social context. The remaining appraisal item was expectation congruence, which refers to how much a situation was congruent with one's expectations.

Notably, the original appraisal questionnaire included an item for motivational incongruence, as well as congruence, but these two constructs involve considerable overlap in emotion theory and were also highly correlated in Study 1 ($r = -.65$, $p < .001$). Thus, in the final analyses, the motivational incongruence item was reverse-scored and averaged with the

motivational congruence item to create a new congruence variable (α = .77). The motivational congruence item in Table 2 reflects both of these items.

Emotions. Emotion was measured using a shortened version of the Felt Emotional Experience List (FEEL; Kirby, Yih, & Smith, 2016; Table 3).

Table 1. Writing task instructions for each emotion prompt.

PROMPTS	WRITING TASK INSTRUCTIONS
Benefit	There are many situations in life that one might evaluate as a BENEFIT. *A benefit is a situation in which something good has happened to you*. Please recall the most BENEFICIAL experience you have had **in the past week**. Think about what happened, who was involved, how you felt, and what you did in this situation. Why was this beneficial for you? In the text box, please describe this experience in as much detail as you can.
Harm	There are many situations in life that one might evaluate as a HARM. *A harm is a situation in which something bad has happened to you.* Please recall the most HARMFUL experience you have had **in the past week**. Think about what happened, who was involved, how you felt, and what you did in this situation. Why was this harmful for you? In the text box, please describe this experience in as much detail as you can.
Opportunity	There are many situations in life that one might evaluate as an OPPORTUNITY. *An opportunity is a situation in which there is a chance that something good might happen to you*. Please recall the most OPPORTUNE experience you have had **in the past week**. Think about what happened, who was involved, how you felt, and what you did in this situation. Why was this opportune for you? In the text box, please describe this experience in as much detail as you can.
Threat	There are many situations in life that one might evaluate as a THREAT. *A threat is a situation in which there is a chance that something bad might happen to you*. Please recall the most THREATENING experience you have had **in the past week**. Think about what happened, who was involved, how you felt, and what you did in this situation. Why was this threatening for you? In the text box, please describe this experience in as much detail as you can.

Table 2. Appraisal items.

APPRAISAL VARIABLES	ITEMS
Acceptability	At the time, did you think that the situation was socially acceptable?
Emotion-Focused Coping Potential	At the time you described, how certain were you that you would, or would not, be able to deal emotionally with what was happening in this situation, however it turned out?
Expectation Congruency	How much was this situation in line with your expectations?
Future Expectancy	Think about how you wanted this situation to turn out. When you were in the situation, how consistent with these wishes (for any reason) did you expect this situation to become (or stay)?
Goal Attainment	To what extent did this situation involve the attainment or fulfillment of something that you wanted?
Involvement of the Unknown	To what extent did this situation involve the unknown?
Motivational Congruence	- To what extent were there positive aspects to the situation – things that you **did want**, or were pleased about? - To what extent were there negative aspects to the situation – things that you **didn't want**, or were displeased about? (*reverse scored*)
Motivational Relevance	How important was what was happening in this situation to you?
Negative Aspect of Self	At the time, to what degree did you think that this situation exposed a negative aspect of yourself to others?
Other-Accountability	To what extent did you consider **someone** or **something else** to be responsible for this situation?
Positive Aspect of Self	At the time, to what degree did you think that this situation exposed a positive aspect of yourself to others?
Problem-Focused Coping Potential	Think about what you wanted and didn't want in this situation. At the time you described, how certain were you that you would be able to influence things to make (or keep) the situation the way you wanted it?
Self-Accountability	To what extent did you consider **yourself** to be responsible for this situation?
Urgency	Faced with the situation, did you think that action was urgently required?
Vastness	To what extent did this situation involve something greater than you?

Table 3. Emotion items.

EMOTION VARIABLES	ITEMS
Anger	mad, angry, annoyed
Anxiety	nervous, anxious, apprehensive
Affection	loving, affectionate
Amusement	amused, entertained
Awe	awed, wondrous, amazed
Challenge/Determination	determined, persistent, motivated
Compassion	compassionate, empathetic, sympathetic
Disgust	disgusted, repulsed, revolted
Embarrassment	embarrassed, humiliated, mortified
Fear	afraid, frightened, scared
Gratitude	grateful, appreciative, thankful
Guilt	guilty, culpable
Happiness/Joy	joyful, happy, glad
Hope	hopeful, optimistic
Interest	interested, engaged, intrigued
Pride	proud, triumphant
Relief	relieved, unburdened
Sadness/Resignation	- sad, downhearted, blue - defeated, resigned, beaten
Shame	ashamed, disgraced, dishonored
Tranquility	tranquil, calm, serene

The emotion variables of primary interest in Study 1 are 8 negative emotion variables and 12 positive emotion variables: anger, anxiety, affection, amusement, awe, challenge/determination, compassion, disgust, embarrassment, fear, gratitude, guilt, happiness/joy, hope, interest, pride, relief, sadness/resignation, shame, and tranquility. For the sadness/resignation variable, the responses for the original sadness and the resignation items were averaged to better represent the emotional experience that I was interested in modeling in my analyses ($\alpha = .85$).

Motivational Goals. Motivational goals were measured using a 56-item questionnaire that covered 20 different motivational goals (Appendix A). There were 11 motivational goals that were adapted and modified from Roseman (2013): harming someone else; getting away from the situation; preventing danger or threat; getting to safety; making amends; recovering from the situation; getting away from people; being close to someone else; sustaining the situation; having happen, which refers to having the situation turn out as desired; and recognizing self. There were four other motivational goals adapted from the literature: undoing the situation (Frijda, 1993); protecting oneself from contamination (Oaten, Stevenson, & Case, 2009); persevering (Kirby et al., 2014); and seeking information (Silvia & Brown, 2008). The remaining five motivational goals were inspired by the motivational tendencies of compassion, gratitude, happiness, and interest as described in Smith et al. (2014): acknowledging or accepting the situation; assimilating or adjusting to the situation; helping someone else; recognizing someone else; and savoring the situation.

In the motivational goal questionnaire, items that corresponded with the same goal were averaged. The reliability for each construct on the motivational goal questionnaire was at least Cronbach's $\alpha = .70$, except for wanting to make amends ($\alpha = .66$).

Coping Strategies. Coping was assessed using a modified 68-item version of the COPE that included 25 coping strategies (Carver, Scheier, & Weintraub, 1989; Appendix B). Ten coping strategies were adapted from Carver et al. (1989): acceptance; active coping; behavioral disengagement, or giving up; denial; emotional expression; planning; seeking social support; self-restraint; turning to religion; and using drugs or alcohol. There were also two coping strategies that were adapted from Carver (1997): self-accountability, or taking responsibility for the situation; and using humor. In addition, there were eight coping strategies created to closely match eight motivational goals: helping, matched with wanting to help; seeking information, matched with wanting to seek information; perseverance, matched with wanting to persevere; physical disengagement, matched with wanting to get away from the situation; savoring, matched with wanting to savor; self-isolation, matched with wanting to get away from people; sustaining, matched with wanting to sustain; and wishful thinking, matched with wanting to have a desired outcome happen. Finally, five more coping strategies were included: reprioritizing or minimizing importance (e.g., telling oneself that a situation is not motivationally relevant); rumination or cognitive focus, which refers to directing and maintaining one's attention and cognition towards a specific situation; self-encouragement; suppression; and understanding, which refers to attempting to gain a better understanding of the situation.

Again, the reliability for each construct in the questionnaire was at least $\alpha = .70$ except for denial ($\alpha = .68$) and self-restraint ($\alpha = .68$).

Procedure

All participants were provided with a link to the survey, which they were instructed to complete on their own computers at their own convenience. The survey took approximately 30 minutes to complete.

Preliminary Analyses

To potentially address concerns about collinearity, I computed intercorrelations for all four sets of variables. For appraisal, only 5.56% of the intercorrelations were considered strong correlations (Cohen, 1988), and appraisals of acceptability, goal attainment, motivational congruence, motivational relevance, and positive evaluation by others were the appraisal variables implicated in these strong intercorrelations (Table 4). For emotion, 33.53% of the intercorrelations were strong correlations (Table 5). In contrast, only 11.18% of the intercorrelations for the motivational goal variables (Table 6) and 4.67% of the intercorrlelations for the coping variables (Table 7) were strong correlations. Taken together, the preliminary analyses indicated that, though the emotions tended to co-occur, the appraisals, motivations, and coping strategies corresponding with emotion are relatively much less intercorrelated.

Primary Analyses

For each emotion, four sets of regression models were conducted to investigate proximal relationships between appraisal, emotion, motivation, and coping. Specifically, regressions were conducted to assess: 1) how appraisals predicted emotional experience; 2) how emotions predicted motivational goals; 3) how motivational goals predicted the use of coping strategies; and 4) how emotions predicted the use of coping strategies. Emotions predicted motivational

goals in one set of analyses and coping in another set of analyses because I was ultimately interested in testing the coping patterns of each emotion, with the underlying logic that the motivations prompted by emotion linked emotion with coping. Each of these four sets of analyses involved two regression models—one that corresponded to my hypotheses, followed by an exploratory model that included all variables of the same class as predictors in the model to investigate if variables that were not included in my original a priori hypotheses were significant predictors in the regression models. Thus, for all four sets of analyses, the first regression model was the primary focus for hypothesis testing.

Following these analyses, mediation models tested if the motivational goals associated with an emotion explained the effect of that emotion on the use of a specific coping strategy. In accordance with Baron and Kenny (1986), after establishing the emotion-motivation and emotion-coping relationships for a particular emotion in the primary regression models, the use of mediation models assessed if the relevant motivational goals fully or partially mediated the observed emotion-coping relationship.

Appraisal-Emotion Relationships. I investigated unique hypothesized appraisal patterns related to each of the 20 emotions of interest. As such, 40 regression models (20 hypothesized and 20 exploratory) were conducted, with appraisal variables as predictors and each specific emotion as the outcome variable in its model. For each emotion, the first regression model tested the coherence between a specific hypothesized appraisal pattern and the relevant emotion. In contrast, the exploratory regression model was intended to determine if any other appraisals that were not included in the original hypotheses significantly predicted the outcome variable (i.e., the emotion of interest).

Table 4. Intercorrelations among appraisal variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Acceptability														
2. Emotion-Focused Coping Potential	.27													
3. Expectation Congruence	.49	.25												
4. Future Expectancy	.38	.24	.30											
5. Goal Attainment	.54	.18	.44	.31										
6. Involvement of the Unknown	–.22	–.13	–.11	–.11										
7. Motivational Congruence	.61	.25	.47	.34	.65	–.12								
8. Motivational Relevance		–.17			.30	.26	.15							
9. Negative Evaluation	–.34	–.29	–.22	–.25	–.25	–	–.41							
10. Other-Accountability	–.21		–.12			.18								
11. Positive Evaluation	.42	.25	.44	.26	.52	–	.59	.31	–.39					
12. Problem-Focused Coping Potential	.28	.23	.28	.39	.29	–.24	.30		–.18	–.14	.25			
13. Self-Accountability	.31		.19		.33	–.16	.22	.19		–.45	.14	.33		
14. Urgency	–.14		–.11			.11	–.25	.25	.11		–.11			
15. Vastness	.12		.18		.25	.28	.17	.30			.24	–.12		

Note. Due to space restrictions and for the ease of reading, only significant correlations are reported ($p < .05$).

Table 5. Intercorrelations among emotion variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Affection																			
2. Amusement	.61																		
3. Anger	–.39	–.46																	
4. Anxiety	–.30	–.35	.40																
5. Awe	.54	.66	–.33	–.19															
6. Comp	.67	.44	–.29	–.13	.47														
7. Determine	.19	.27	–.26		.34	.26													
8. Disgust	–.29	–.28	.61	.36	–.16	–.21	–.18												
9. Embarrass	–.17	–.18	.57	.36	–.14	–.15	–.23	.51											
10. Fear	–.31	–.36	.44	.66	–.20	–.18	–.18	.47	.33										
11. Gratitude	.53	.51	–.55	–.29	.56	.45	.40	–.45	–.33	–.35									
12. Guilt	–.11	–.16	.46	.35	–.14			.34	.64	.30	–.28								
13. Hope	.48	.45	–.55	–.21	.50	.46	.57	–.41	–.33	–.32	.71	–.25							
14. Interest	.55	.59	–.57	–.23	.57	.56	.56	–.42	–.38	–.39	.69	–.31	.71						
15. Joy	.63	.67	–.64	–.38	.61	.44	.43	–.48	–.39	–.48	.79	–.34	.72	.74					
16. Pride	.42	.51	–.44	–.16	.55	.31	.57	–.35	–.31	–.24	.58	–.28	.62	.61	.71				
17. Relief	.34	.43	–.39	–.18	.44	.30	.39	–.29	–.26	–.25	.63	–.22	.52	.46	.60	.53			
18. Resign	–.20	–.29	.66	.39	–.18		–.24	.50	.57	.38	–.38	.57	–.36	–.38	–.47	–.40	–.29		
19. Shame	–.25	–.22	.60	.39	–.17	–.17	–.21	.64	.81	.36	–.39	.69	–.35	–.39	–.42	–.36	–.29	.66	
20. Tranquil	.55	.56	–.51	–.49	.44	.44	.31	–.39	–.33	–.53	.55	–.27	.52	.59	.67	.45	.55	–.32	–.34

Note. The emotion variables are abbreviated or shortened as follows: Comp = compassion; Determine = determination; Embarrass = embarrassment; Resign = sadness/resignation; and Tranquil = tranquility. Due to space restrictions and for the ease of reading, only significant correlations are reported ($p < .05$).

Table 6. Intercorrelations among motivational goal variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Ack																			
2. Adjust	.44																		
3. Away Other	−.14	.16																	
4. Away Sit			.63																
5. Be Close	.22	.27																	
6. Have Happ	.46	.39			.20														
7. Help	.44	.23		−.30	.44	.18													
8. Hurt			.44	.32			−.12												
9. Amends	.29	.47	.32	.31	.23	.23	.32												
10. Persevere	.50	.53			.17	.50	.31		.43										
11. Prevent	.38	.26	.17	.38	.17	.27	.21		.41	.34									
12. Protect	.13	.12	.34	.48	.24			.23	.33		.35								
13. Rec Other	.35	.19	−.21	−.41	.44		.66	−.12	.12	.20									
14. Rec Self	.29	.18	−.14	−.32	.16	.38	.31			.35			.34						
15. Recover		.29	.60	.57	.25	.13		.22	.50	.33	.29	.36							
16. Safety	.20	.26	.33	.66	.20	.15		.16	.29	.22	.54	.52	−.21	−.15	.39				
17. Savor	.40	.19	−.38	−.62	.31	.31	.51	−.21		.21	−.13	−.21	.65	.52	−.28	−.32			
18. Seek Info	.40	.25	−.12	−.28	.16	.34	.40		.22	.33			.33	.44			.35		
19. Sustain	.35	.12	−.31	−.57	.27	.22	.48	−.19		.13	−.16	−.17	.64	.51	−.23	−.33	.83	.29	
20. Undo		.14	.41	.52			−.16	.16	.39		.26	.28	−.25	−.22	.42	.39	−.44		−.40

Note. The motivational goal variables are abbreviated or shortened as follows: Ack = acknowledge; Away Sit = get away from situation; Have Happ = have happen; Rec Other = recognize someone else; and Rec Self = recognize self. Due to space restrictions and for the ease of reading, only significant correlations are reported ($p < .05$).

Table 7. Intercorrelations among coping variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
2																								
3	.28	−.22																						
4	.21		.46																					
5	.18	−.11	.49	.30																				
6	.32	.12	.12																					
7	.13	.21				.23																		
8	.13	.11				.24	.34																	
9	.26		.31	.25	.37		−.12	−.24																
10	.29	.17	.21	.18		.15			.16															
11	.47		.41	.34	.24	.16			.25	.25														
12	.17	.52	−.22		−.13	.17	.14	.19		.31														
13	.25	.11	.24	.26	.16		.12	.19		.15	.24	.19												
14	.15	.57	−.16	−.11		.16	.14	.21		.18		.62	.31											
15		.37	−.19		−.17	.21	.33	.33	−.18	.16		.46	.26	.50										
16	.16	.13	.23	.24	.18	.36		.16		.17	.21	.19	.37	.32	.38									
17			−.12	−.14	−.13	.23	.41	.69	−.36		−.14	.13			.33									
18	.17	.23				.52	.16	.24		.16		.20	.14	.28	.37	.38	.24							
19	.27	.59				.21	.13	.12	.22	.33	.15	.60	.32	.62	.32	.30		.23						
20	.18		.39	.40	.45	−.15			.22	.21	.24		.33			.19		−.20	.16					
21	.23	.11				.61	.23	.27		.11	.12	.11	.13	.17	.30	.38	.28	.83	.14	−.22				
22	.32		.37	.44	.19				.27	.42	.37		.27				−.14		.21	.29				
23	.32	.30				.24	.38	.36	−.12	.37	.12	.44	.26	.38	.48	.30	.41	.32	.35		.26	.19		
24	.31	.33						.15		.49	.12	.65	.25	.47	.35	.23		.14	.52	.21		.29	.52	
25	.27	.26	.21	.19		.24		.20		.31	.20	.31	.29	.33	.26	.41	.13	.28	.33	.25	.22	.15	.36	.32

Note. The numbers correspond to the following coping variables: 1 = acceptance; 2 = active coping; 3= behavioral disengagement; 4 = denial; 5 = drug use; 6 = emotional expression; 7 =helping; 8 = use of humor; 9 = information seeking; 10) perseverance; 11) physical disengagement; 12 = planning; 13 = religion; 14 = reprioritization; 15 = rumination/cognitive focus; 16 = savoring; 17 = self-encouragement; 18 = self-isolation; 19 = self-restraint; 20 = social support; 21 = suppression; 22 = sustaining; 23 = taking accountability; 24 = understanding; and 25 = wishful thinking. Due to space restrictions and for the ease of reading, only significant correlations are reported ($p < .05$).

Finally, each exploratory regression model involved 18 *t*-tests; to correct for multiple comparisons, a Bonferroni significant threshold of $p < .0028$ was set for the exploratory appraisal-to-emotion regression models.

Emotion-Motivation Relationships. To determine the role of motivational goals in explaining the emotion-to-coping relationships, I first conducted regression analyses that examined the emotion-to-motivation. These regressions followed the same structure as the previous analyses, but with the emotion variables as predictors and the motivational goals as the outcome variables. I hypothesized that 20 emotions would differentially predict 20 motivational goals, and thus, 40 regression models (20 hypothesized and 20 exploratory) were conducted in this set of analyses. Each exploratory regression model involved 23 *t*-tests; thus, a Bonferroni correction of $p < .0022$ was set for the exploratory emotion-to-motivation regression models.

Motivation-Coping Relationships. For testing motivation-to-coping relationships, the dependent variables were coping strategies. I hypothesized that the 20 motivational goals differentially associated with each emotion would uniquely predict 25 coping strategies, and therefore, 50 regression models (25 hypothesized and 25 exploratory) were conducted with each coping strategy as an outcome variable in its own regression. Each exploratory regression model involved 23 *t*-tests; thus, a Bonferroni correction of $p < .0022$ was set the exploratory motivation-to-coping models.

Emotion-Coping Relationships. To establish the effects of different emotions on the use of specific coping strategies, a series of regression models that followed the same logic as the appraisal-to-emotion regression models were conducted to test the emotion-to-coping relationships. These regressions involved emotion variables as predictors and coping strategies as outcome variables, and because there were 25 coping strategies of interest in Study 1, 50

regression models (25 hypothesized and 25 exploratory) were conducted. Each exploratory regression model involved 23 *t*-tests; thus, to correct for multiple comparisons, a strict Bonferroni correction of $p < .0022$ was set for the exploratory emotion-to-coping models.

Mediation of Emotion-Coping Relationships. Finally, upon demonstrating the effects of an emotion on motivation and on a specific coping strategy, I tested how the motivational goals that significantly predicted this coping strategy mediated this emotion-to-coping relationship (Baron & Kenny, 1986). I conducted a mediation analysis that assessed how the motivational goals hypothesized to correspond with the particular emotion of interest, as well as the other motivational goal variables prompted by this emotion, fared when entered simultaneously into a one-step regression model. The logic of this final analysis was to test if the motivational goals associated with different emotions mediated the effects of emotion on coping.

In these mediation models, full mediation occurred when the emotion-coping relationship was no longer significant, whereas partial mediation occurred when the strength of the emotion-coping relationship (according to the standardized beta weight value) decreased but remained statistically significant (Baron & Kenny, 1986). If mediation appeared to occur, the Aroian (1944/1947) version of the Sobel (1982) test was then used to determine the statistical significance of each of these mediation effects.

For the sake of brevity and to ease the cognitive overhead of the reader, the hypothesized structure for each of the 20 emotions is presented with the findings.

Results

Hypotheses were generated for 20 emotions in total – 8 negative emotions and 12 positive emotions. A specific pattern of appraisals and motivational goals was outlined for each

emotion. I hypothesized that all emotions, except for tranquility (Ellsworth & Smith, 1988; Smith et al., 2014), would be associated with the appraisal of motivational relevance, as emotions have been conceptualized as a concern relevance detection system (Frijda, 1986; Simon, 1967). The hypotheses and results for each emotion are presented below, beginning with the negative emotions (harm-related and threat-related) and then transitioning to the positive emotions (benefit-related and opportunity-related).

Negative Emotions: Harm-Related

As well as the appraisal of motivational relevance, I hypothesized that each negative emotion would correspond with the appraisal of motivational incongruence, as indicated by negative regression coefficient weights for motivational congruence. Unless otherwise reported, the model fit statistics for all negative emotion regression models are presented in Table 8.

Anger. I hypothesized that the appraisal of other-accountability would be the key appraisal in the experience of anger (Smith & Lazarus, 1990). However, only appraisals of motivational relevance and incongruence significantly predicted the experience of anger in the hypothesized regression model (Table 9). In the exploratory regression model of anger that included all appraisal variables, appraisals of negative evaluation by others and low involvement of the unknown also predicted anger.

The appraisal of legitimacy was not included in the original appraisal questionnaire, but previous research has suggested its relevance to anger (Kuppens, Van Mechelen, Smits, & De Boeck, 2003; Smith & Kirby, 2004).

Table 8. Model fit statistics for all negative emotion regression models.

Outcome Variable	Hypothesized Regression Model	Exploratory Regression Model
Appraisal-Emotion Models		
Anger	$F(5, 340) = 63.46$ ***, $R^2 = .48$	$F(17, 328) = 23.95$ ***, $R^2 = .55$
Anxiety	$F(5, 340) = 30.89$ ***, $R^2 = .31$	$F(17, 328) = 11.29$ ***, $R^2 = .37$
Disgust	$F(5, 340) = 47.01$ ***, $R^2 = .41$	$F(17, 328) = 15.58$ ***, $R^2 = .45$
Embarrassment	$F(5, 340) = 34.89$ ***, $R^2 = .34$	$F(17, 328) = 13.93$ ***, $R^2 = .42$
Fear	$F(6, 339) = 44.42$ ***, $R^2 = .44$	$F(18, 327) = 18.00$ ***, $R^2 = .50$
Guilt	$F(6, 339) = 19.63$ ***, $R^2 = .26$	$F(18, 327) = 16.78$ ***, $R^2 = .48$
Sadness/Resignation	$F(6, 339) = 25.14$ ***, $R^2 = .31$	$F(17, 328) = 18.74$ ***, $R^2 = .49$
Shame	$F(7, 338) = 36.68$ ***, $R^2 = .43$	$F(17, 328) = 17.84$ ***, $R^2 = .48$
Emotion-Coping Models		
Active Coping	$F(8, 337) = 9.27$ ***, $R^2 = .18$	$F(22, 323) = 4.40$ ***, $R^2 = .23$
Behavioral Disengagement	$F(4, 341) = 43.65$ ***, $R^2 = .34$	$F(22, 323) = 9.83$ ***, $R^2 = .40$
Drug Use	$F(4, 341) = 4.39$ **, $R^2 = .049$	$F(22, 323) = 2.52$ ***, $R^2 = .15$
Emotional Expression	$F(3, 342) = 7.11$ ***, $R^2 = .059$	$F(22, 323) = 4.40$ ***, $R^2 = .23$
Humor	$F(3, 342) = 4.57$ **, $R^2 = .039$	$F(22, 323) = 3.80$ ***, $R^2 = .21$
Information Seeking	$F(5, 340) = 21.72$ ***, $R^2 = .24$	$F(22, 323) = 7.50$ ***, $R^2 = .34$
Physical Disengagement	$F(6, 339) = 13.54$ ***, $R^2 = .22$	$F(22, 323) = 5.81$ ***, $R^2 = .28$
Reprioritization	$F(2, 343) = 0.74$, $R^2 = .0043$	$F(22, 323) = 3.42$ ***, $R^2 = .19$
Rumination	$F(3, 342) = 15.30$ ***, $R^2 = .12$	$F(22, 323) = 6.40$ ***, $R^2 = .30$
Self-isolation	$F(5, 340) = 14.75$ ***, $R^2 = .18$	$F(22, 323) = 4.21$ ***, $R^2 = .22$
Self-restraint	$F(5, 340) = 2.64$ *, $R^2 = .037$	$F(22, 323) = 2.05$ **, $R^2 = .12$
Suppression	$F(5, 340) = 7.99$ ***, $R^2 = .11$	$F(22, 323) = 5.11$ **, $R^2 = .26$
Taking Accountability	$F(5, 340) = 24.20$ ***, $R^2 = .26$	$F(22, 323) = 8.63$ ***, $R^2 = .37$
Wishful Thinking	$F(3, 342) = 9.05$ ***, $R^2 = .074$	$F(22, 323) = 11.54$ ***, $R^2 = .44$
Emotion-Motivation Models		
Get Away from Others	$F(3, 342) = 58.25$ ***, $R^2 = .34$	$F(22, 323) = 14.00$ ***, $R^2 = .49$
Get Away from Situation	$F(4, 341) = 49.87$ ***, $R^2 = .37$	$F(22, 323) = 24.09$ ***, $R^2 = .62$
Get to Safety	$F(3, 342) = 71.06$ ***, $R^2 = .38$	$F(22, 323) = 12.46$ ***, $R^2 = .46$
Hurt Someone	$F(3, 342) = 28.28$ ***, $R^2 = .20$	$F(22, 323) = 8.16$ ***, $R^2 = .36$
Make Amends	$F(3, 342) = 35.69$ ***, $R^2 = .24$	$F(22, 323) = 10.48$ ***, $R^2 = .42$
Prevent Threat	$F(4, 341) = 19.18$ ***, $R^2 = .18$	$F(22, 323) = 4.90$ ***, $R^2 = .25$
Protect from Contamination	$F(3, 342) = 27.69$ ***, $R^2 = .20$	$F(22, 323) = 5.19$ ***, $R^2 = .26$
Recover	$F(4, 341) = 45.71$ ***, $R^2 = .35$	$F(22, 323) = 9.60$ ***, $R^2 = .40$
Undo	$F(3, 342) = 37.92$ ***, $R^2 = .25$	$F(22, 323) = 8.81$ ***, $R^2 = .38$

(Table 8 continued)

Outcome Variable	Hypothesized Regression Model	Exploratory Regression Model
Motivation-Coping Models		
Active Coping	$F(8, 337) = 12.81$ ***, $R^2 = .23$	$F(22, 323) = 7.06$ ***, $R^2 = .32$
Behavioral Disengagement	$F(3, 342) = 25.46$ ***, $R^2 = .18$	$F(22, 323) = 8.86$ ***, $R^2 = .38$
Drug Use	$F(4, 341) = 7.92$ ***, $R^2 = .085$	$F(22, 323) = 3.64$ ***, $R^2 = .20$
Emotional Expression	$F(4, 341) = 6.95$ ***, $R^2 = .075$	$F(22, 323) = 4.54$ ***, $R^2 = .24$
Humor	$F(4, 341) = 2.78$ *, $R^2 = .032$	$F(22, 323) = 1.88$ *, $R^2 = .11$
Information Seeking	$F(6, 339) = 80.15$ ***, $R^2 = .59$	$F(22, 323) = 23.54$ ***, $R^2 = .62$
Physical Disengagement	$F(7, 338) = 40.13$ ***, $R^2 = .45$	$F(22, 323) = 13.73$ ***, $R^2 = .48$
Reprioritization	$F(2, 343) = 0.74$ ***, $R^2 = .0043$	$F(22, 323) = 3.03$ ***, $R^2 = .17$
Rumination	$F(3, 342) = 4.31$ **, $R^2 = .036$	$F(22, 323) = 7.59$ ***, $R^2 = .34$
Self-isolation	$F(6, 339) = 52.16$ ***, $R^2 = .48$	$F(22, 323) = 15.14$ ***, $R^2 = .51$
Self-restraint	$F(7, 338) = 2.96$ **, $R^2 = .058$	$F(22, 323) = 3.69$ ***, $R^2 = .20$
Suppression	$F(8, 337) = 7.53$ ***, $R^2 = .15$	$F(22, 323) = 7.34$ ***, $R^2 = .33$
Taking Accountability	$F(5, 340) = 16.12$ ***, $R^2 = .19$	$F(22, 323) = 6.31$ ***, $R^2 = .30$
Wishful Thinking	$F(3, 342) = 10.34$ ***, $R^2 = .083$	$F(22, 323) = 14.64$ ***, $R^2 = .50$

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

Thus, two independent coders who were blind to experimental design and the purpose of Study 1 read each text response to the writing task and coded for the legitimacy of the situation ("How legitimate or fair was this situation?) using the same 9-point Likert scale from the appraisal questionnaire. Due to initial poor reliability for the coded legitimacy variable ($ICC = .69$), responses that varied by more than 3 points were discussed between the two coders to settle discrepancies. As a result, 44 responses were recoded and reliability was improved such that the legitimacy variable could be used in follow-up analyses ($ICC = .81$). A follow-up regression model was conducted that included this coded variable with the hypothesized appraisals as predictors of anger ($F(6, 339) = 60.33$, $p < .001$, $R^2 = .52$), and the appraisal of low legitimacy ($\beta = -.20$, $p < .001$) became a significant predictor of anger.

With regard to the motivational goals prompted by anger, the experience of anger should predict wanting to harm someone and to undo the situation (Roseman, 2013; Smith & Lazarus, 1990). Indeed, anger predicted wanting to harm and wanting to undo (Table 10). The goals of harming and undoing then predicted the use of various coping strategies (Table 11).

Previous research describes the coping styles associated with anger as either "anger-in" or "anger-out" (Smits & Kuppens, 2005). Accordingly, I hypothesized that experiences of anger would predict the use of emotional expression as well as anger-in coping strategies, particularly self-isolation, self-restraint, and suppression. Though anger did not predict self-isolation or self-restraint, experiences of anger corresponded with the use of emotional expression and suppression as expected, as well as the use of humor (Table 12). Humor may serve as a means of expression emotion while also making light of the situation.

Separate mediation models were run to test how motivational goals explained the relationships between anger and the uses of emotional expression, suppression, and humor, respectively. The mediation model for emotional expression ($F(5, 340) = 5.96$, $p < .001$, $R^2 = .081$) demonstrated that wanting to hurt another person ($\beta = .15$, $p = .011$) fully mediated the effect of anger ($\beta = .093$, $p = .16$) on the use of emotional expression. This mediation effect was classified as full mediation because the effect of anger on emotional expression was no longer significant after accounting for the motivational goals prompted by anger. The Aroian (1944/1947) version of the Sobel (1982) test was then used to test the significance of this mediation effect, specifically if the mediator carried the effect of emotion to coping, and the results indicated that mediation effect of wanting to harm was significant ($p = .023$) in explaining the relationship between anger and the use of emotional expression to cope.

Table 9. Coefficients for appraisal-to-negative emotion regression models.

PREDICTOR VARIABLES	OUTCOME VARIABLE							
	Anger	Anxiety	Disgust	Embarrassment	Fear	Guilt	Resignation	Shame
Acceptability			**−.37 *****			**−.10 ***		
Emotion-Focused Coping Potential		**−.25 *****			**−.30 *****		*−.22* ***	
Future Expectancy							**−.12 ***	
Involvement of Unknown	*−.13* **	*.19* ***						
Motivational Congruence	**−.70 *****	**−.42 *****	**−.34 *****	**−.27 *****	**−.45 *****	**−.39 *****	**−.42 *****	**−.25 *****
Motivational Relevance	**.095 ***	**.18 *****	**.099 ***	**.078**	**.050**	**.10 ***	**.16 *****	**.14 ****
Negative Evaluation	*.13* **			**.41 *****		*.32* ***	*.25* ***	**.36 *****
Other-Accountability	**.011**							
Positive Evaluation						*−.22* ***		**−.20 *****
Problem-Focused Coping Potential							**−.042**	
Self-Accountability				*.20* ***		**.34 *****		**.14 ****
Urgency					**.18 *****			

Note. The standardized regression coefficients are bolded for the hypothesized appraisal-emotion models. All findings for the predictor (i.e., appraisal) variables from the hypothesized regression models are reported. For the exploratory regression models, only the significant results (after applying the Bonferroni correction to correct for multiple comparisons) are reported; the standardized regression coefficients of the significant predictors are italicized. Asterisks indicate significance (* $p < .05$, ** $p < .01$, *** $p < .001$).

Table 10. Coefficients for negative emotion-to-motivation regression models.

PRED. VAR.	OUTCOME VARIABLE												
	Adjust	Be Close	Away Other	Away Sit	Get to Safety	Hurt	Make Amends	Prevent	Protect Contam	Rec Other	Rec Self	Recover	Undo
Anger						**.44*** **							**.50*** **
Anxiety								**.032**					
Disgust	*−.30*** **			**.46*** **		*.42*** **			**.43*** **				
Embarrass			*.23***	**.22*** **			*.24***						
Fear				*.31*** **	**.61*** **			**.39*** **	*.27*** **				*.26*** **
Guilt							**.48*** **						
Resign		*.29*** **	*.29*** **							*.20***	*.26*** **	**.59*** **	
Shame			**.58*** **										

Note. The standardized regression coefficients are bolded for the hypothesized negative emotion-to-motivation regression models. The outcome variable in each regression model is a motivational goal. All findings for the emotion variables from the hypothesized regression models are reported. For the exploratory regression models, only the significant results (after applying the Bonferroni correction to correct for multiple comparisons) are reported. The standardized regression coefficients of the significant predictors are italicized. Asterisks indicate significance (* $p < .05$, ** $p < .01$, *** $p < .001$). The predictor (i.e., emotion) variables are shortened as follow: Embarrass = embarrassment and Resign = sadness/resignation. The outcome (i.e., motivational goal) variables are shortened as follows: Away Others = get away from others; Away Sit = get away from situation; Protect Contam = protect from contamination; Rec Other = recognize someone else; and Rec Self = recognize self.

Table 11. Coefficients for motivation-to-coping for the negative emotion regression models.

PRED. VAR.	OUTCOME VARIABLES											
	AC	BD	DU	EE	PD	Rep	Rum	SI	SR	Sup	TA	WT
Adjust						*.22***						
Away Other	*−.26****	*.33****	**.28****					**.61****	**.20****	*.25****		
Away Sit	**−.056**				**.60****				**−.13**	**.20****	**−.047**	
Hurt			*.23****	**.18****				**.16****	**.033**	**.17****		
Make Amends	**.043**										**.36****	
Prevent	**.17**		**−.032**		**−.10***		**.17****					
Protect Contam					**.034**		*−.20****			**.0090**		
Recover		**.42****			**−.063**			**.051**				
Safety	**−.044**				**.18****					**.0047**		*−.22****
Undo								**−.11***	**.018**	**.14***		

Note. The standardized regression coefficients are bolded for the hypothesized motivation-to-coping regression models. The predictor variables are the motivational goal variables originally hypothesized to correspond to a negative emotion. The outcome variable in each regression model is a coping strategy. All findings for the motivational goal variables from the hypothesized regression models are reported. For the exploratory regression models, only the significant results (after applying the Bonferroni correction to correct for multiple comparisons) are reported. The standardized regression coefficients of the significant predictors are italicized. Asterisks indicate significance (* $p < .05$, ** $p < .01$, *** $p < .001$). The predictor (i.e., motivational goal) variables are shortened as follows: Away Sit = get away from situation; Protect Contam = protect contamination. The outcome (i.e., coping) variables are abbreviated or shortened as follows: AC = active coping; BD = behavioral disengagement; DU = drug use; IS = information seeking; PD = physical disengagement; Rep = reprioritization; Rum = rumination/cognitive focus; SI = self-isolation; Sup = suppression; TA = taking accountability; and WT = wishful thinking.

Table 12. Coefficients for negative emotion-to-coping regression models.

PRED. VAR.	OUTCOME VARIABLES													
	AC	BD	DU	EE	H	IS	PD	Rep	Rum	SI	SR	Sup	TA	WT
Anger				**.13***	*.25***					**-.032**	**-.074**	**.16***		
Anxiety	**.054**		**.00**			**.077**			**.33*****					
Disgust					*−.24***		**.27*****				**.069**	**.14***	*−.21***	
Embarr	**−.062**						**.094**	*.33****					**.071**	
Fear	**.13**						**.24*****					**.084**		
Guilt	**.040**												**.48*****	
Resign		**.59*****		*.32****			**-.053**		*.26***	**.36*****		*.33****		*.38****
Shame			**.21*****							**.14***	**.17***			

Note. The standardized regression coefficients are bolded for the hypothesized motivation-to-coping regression models. The predictor variables are the motivational goal variables originally hypothesized to correspond to a negative emotion. The outcome variable in each regression model is a coping strategy. All findings for the motivational goal variables from the hypothesized regression models are reported. For the exploratory regression models, only the significant results (after applying the Bonferroni correction to correct for multiple comparisons) are reported. The standardized regression coefficients of the significant predictors are italicized. Asterisks indicate significance (* $p < .05$, ** $p < .01$, *** $p < .001$). The predictor (i.e., emotion) variables are abbreviated or shortened as follows: Embarr = embarrassment; and Resign = sadness/resignation. The outcome (i.e., coping) variables are abbreviated as follows: AC = active coping; BD = behavioral disengagement; DU = drug use; EE = emotional expression; IS = information seeking; H = humor; PD = physical disengagement; Rep = reprioritization; Rum = rumination/cognitive focus; SI = self-isolation; SR = self-restraint; Sup = suppression; TA = taking accountability; and WT = wishful thinking.

In the mediation model for suppression ($F(5, 340) = 10.35$, $p < .001$, $R^2 = .13$), wanting to harm ($\beta = .18$, $p < .01$) and to undo ($\beta = .19$, $p < .01$) mediated the relationship between anger ($\beta = .11$, $p = .085$) and the use of suppression, and both of these mediation effects were significant (both ps < .01).

As for the use of humor ($F(5, 340) = 1.62$, $p = .15$, $R^2 = .023$), neither wanting to harm nor undo (both βs < .025; both ps > .68) mediated the relationship between anger ($\beta = .14$, $p = .039$) and humor. Notably, the mediation model for humor use was of poor model fit. Nonetheless, the direct relationship between anger and humor suggests that, during experiences of anger, other goals and motivations that are not associated with anger may intervene such that humor is used to regulate emotion and to cope with the situation at hand.

Disgust. I hypothesized that appraisals of low acceptability would predict the experience of disgust in the regression model (Silvia & Brown, 2007). As expected, appraisals of motivational relevance, incongruence, and low acceptability were significant predictors of disgust (Table 9).

I also hypothesized that disgust would correspond with wanting to get away from the situation at hand and to protect oneself from contamination (Roseman, 2013). Indeed, disgust predicted wanting to protect oneself from contamination and wanting to get away from the situation, as well as the motivational goal of harming another person and a decrease in the desire to adjust to the situation (Table 10). To my knowledge, no studies have documented how people naturally regulate their experiences of disgust, though research has examined how different emotion regulatory strategies influence reactivity and responses to disgusting stimuli (Demaree et al., 2006; Gross, 1998). Thus, based on the motivational goals hypothesized to be prompted by disgust, I hypothesized that the experience of disgust would predict physical disengagement,

self-restraint, and suppression. Disgust predicted the use of physical disengagement and suppression, but not self-restraint (Table 12). Unexpectedly, disgust was also negatively related to using humor and taking accountability.

Again, after establishing the significance of the relationships needed to test for mediation (Baron & Kenny, 1986), separate mediation models were conducted, with the Aroian version of the Sobel test utilized to test for the significance of these mediation effects. In the mediation model for physical disengagement ($F(7, 338) = 37.46$, $p < .001$, $R^2 = .44$), the motivational goal of getting away from the situation ($\beta = .61$, $p < .001$) fully mediated the effect of disgust ($\beta = .029$, $p = .61$) on using physical disengagement, and this effect was significant ($p < .001$).

In the mediation model for suppression ($F(7, 338) = 12.65$, $p < .001$, $R^2 = .21$), the motivational goals of assimilating ($\beta = .27$, $p < .001$), getting away from the situation ($\beta = .20$, $p < .01$), and harming another person ($\beta = .17$, $p < .01$) fully mediated the relationship between disgust ($\beta = .10$, $p = .13$) and suppression. However, only the mediation effects of wanting to assimilate and to get away were significant (both ps $< .01$), whereas the effect of wanting to assimilate was not significant according to the Aroian test ($p = .22$).

In the mediation model for humor use ($F(7, 338) = 3.25$, $p < .01$, $R^2 = .063$), as with suppression, the motivational goals of assimilating ($\beta = .15$, $p < .01$), getting away from the situation ($\beta = .13$, $p = .057$), and harming another person ($\beta = .093$, $p = .038$) partially mediated the effect of disgust ($\beta = -.18$; $p = .015$) on humor use. The mediation effect of wanting to get away was significant ($p < .01$), whereas the effect of wanting to harm was marginally significant ($p = .050$); the Aroian test showed that the mediation effect of wanting to assimilate was not significant ($p = .26$). These mediation effects were classified as partial mediation because the

strength of the relationship between disgust and humor use decreased, but remained significant (Baron & Kenny, 1986).

Finally, in the mediation model for taking accountability ($F(7, 338) = 6.55$, $p < .001$, $R^2 = .12$), only the motivational goal of assimilating ($\beta = .35$, $p < .001$) appeared to mediate the effect of disgust ($\beta = .036$, $p = .62$) on taking accountability to cope, but this mediation effect was not significant ($p = .21$).

Sadness/Resignation. Based on Smith and Lazarus (1990), I predicted that appraisals of low problem-focused coping potential and low future expectancy would correspond with the experience of sadness/resignation, such that these appraisals would be negatively associated with sadness/resignation. Supporting this original hypothesis, appraisals of motivational relevance, incongruence, and low future expectancy significantly predicted sadness/resignation in the hypothesized regression model, but the appraisal of low problem-focused coping potential was not a significant predictor (Table 9). In the exploratory regression model, appraisals of other-accountability and low emotion-focused coping potential also predicted sadness/resignation.

I originally hypothesized that the experience of sadness/resignation would prompt the desire to recover (Roseman, 2013). Indeed, sadness/resignation predicted the motivational goal of recovering from what was going on (Table 10). In the exploratory regression models, sadness/resignation also predicted wanting to be close to others and to get away from others, as well as wanting to recognize another person and to recognize oneself. As for coping, I hypothesized that sadness/resignation would correspond with the use of behavioral and physical disengagement (Freed & Mann, 2007), as well as self-isolation (Spirito, Francis, Overholser, & Frank, 1996). Though the data did not support my hypothesis about physical disengagement, sadness/resignation predicted the use of behavioral disengagement and self-isolation as expected,

as well as the use of emotional expression, rumination, suppression, and wishful thinking (Table 12).

The mediation model for behavioral disengagement ($F(8, 337) = 27.29$, $p < .001$, $R^2 = .39$) indicated that wanting to get away from others ($\beta = .29$) partially mediated the relationship between sadness/resignation ($\beta = .40$) and the use of behavioral disengagement (both ps $< .001$). In the mediation model for self-isolation ($F(8, 337) = 34.62$, $p < .001$, $R^2 = .45$), the motivational goal of getting away from others ($\beta = .67$, $p < .001$) also fully mediated the effect of sadness/resignation ($\beta = -.012$, $p = .83$) on self-isolation. Both of these mediation effects were statistically significant (both ps $< .001$).

For the emotional expression mediation model ($F(8, 337) = 10.74$, $p < .001$, $R^2 = .20$), wanting to recognize another person ($\beta = .20$, $p < .001$) fully mediated the effect of sadness/resignation ($\beta = .10$, $p = .13$) on the use emotional expression. Moreover, the other motivational goals prompted by sadness/resignation were marginally significant in this mediation model, indicating that they may have also had mediation effects on the relationship between sadness/resignation and emotional expression (all βs $< .21$; all ps $< .093$). The Aroian tests indicated that all mediation effects were significant (all ps $< .045$) except for the effect of recognizing oneself, which was only marginally significant ($p = .068$).

In the mediation model for suppression ($F(8, 337) = 17.63$, $p < .001$, $R^2 = .30$), the motivational goals of being close to another person ($\beta = .20$) and also getting away from others ($\beta = .25$) partially mediated the effect of sadness/resignation ($\beta = .13$) on the use of suppression to cope (all ps $< .001$). The effects of mediation by these two goals were significant (both ps $< .040$).

Finally, in the mediation model for wishful thinking ($F(8, 337) = 27.94$, $p < .001$, $R^2 = .40$), the motivational goals did not mediate the relationship between sadness/resignation ($\beta = .42$, $p < .001$) and wishful thinking. Rather, the relationship between sadness/resignation and wishful thinking strengthened after including the motivational goals in the model, and therefore, Aroian tests were not utilized to test for the significance of mediation effects. Similarly, the mediation model for rumination ($F(8, 337) = 11.31$, $p < .001$, $R^2 = .21$) showed that the effect of sadness/resignation ($\beta = .32$, $p < .001$) on the use of rumination increased after accounting for sadness/resignation's motivational goals. Thus, the motivational goals associated with sadness/resignation did not mediate the relationships between sadness/resignation and the use of wishful thinking and rumination, respectively.

Guilt. I hypothesized that guilt would correlate with appraisals of self-accountability and low acceptability (Smith & Lazarus, 1990). Appraisals of motivational relevance, incongruence, low acceptability, and self-accountability predicted the experience of guilt (Table 9). In the exploratory regression model, appraisals of high negative and low positive evaluation by others also predicted guilt.

I expected the experience of guilt to motivate the desire to make amends (Roseman, 2013); indeed, guilt predicted wanting to make amends (Table 10). I also hypothesized that guilt would correspond with the use of active coping (Duhachek, Agrawal, & Han, 2012) and taking accountability (Silfver, 2007), but guilt only predicted the use of taking accountability as a coping mechanism (Table 12).

In the mediation model ($F(4, 341) = 27.21$, $p < .001$, $R^2 = .24$), wanting to make amends ($\beta = .19$) partially mediated the effect of guilt ($\beta = .37$) on coping via taking accountability (both ps $< .001$), and this mediation effect was significant ($p < .001$).

Embarrassment. I hypothesized that embarrassment would be associated with the appraisal of negative evaluation by others, or revealing a negative aspect of oneself (Keltner & Buswell, 1997; Tangney & Miller, 1996; Tracy & Robins, 2006). Indeed, appraisals of motivational incongruence and revealing a negative aspect of self to others predicted the experience of embarrassment (Table 9). Interestingly, younger age also predicted embarrassment ($\beta = -.090$, $p = .044$). The exploratory regression model indicated that the appraisal of self-accountability was also a significant predictor of embarrassment. Comparing appraisal patterns, embarrassment was differentiated from guilt based on the appraisal of low acceptability, which was implicated in guilt but not embarrassment.

Similar to disgust, embarrassment should motivate wanting to get away from the situation. The hypothesized regression model of this motivational goal showed that embarrassment predicted wanting to get away from the situation, as well as wanting to get away from others and making amends (Table 10). Based on previous research, I hypothesized that embarrassment would prompt the use of active coping and taking accountability (Cupach, Metts, & Hazleton, 1986), as well as physical disengagement in accordance with the motivational goal associated with embarrassment. However, embarrassment did not predict the use of any of these hypothesized coping strategies; rather, embarrassment unexpectedly predicted the reprioritization or minimization of goals (Table 12).

In the mediation model ($F(6, 339) = 6.16$, $p < .001$, $R^2 = .098$), wanting to get away from the situation ($\beta = .12$, $p = .081$) partially mediated the effect of embarrassment ($\beta = .13$, $p = .055$) on the use of reprioritization or minimization of goals (Table 12), and though each of these variables were marginally significant in the mediation model, the mediation effect of the motivation goal of getting away was significant ($p < .01$).

Shame. I hypothesized that appraisals of high negative and low positive evaluation by others would predict the experience of shame in the regression model, as well as the appraisal of self-accountability (Tangney & Miller, 1996; Tracy & Robins, 2006). Unlike with embarrassment, the appraisal of low positive evaluation by others might be a critical aspect of shame, as shame might negatively affect how one is perceived and judged in a positive light as well as in a negative light. Embarrassment, unlike shame, might be solely related to revealing a negative aspect of oneself in the moment, without making any implications about or denigrating positive aspects of oneself. Indeed, appraisals of motivational relevance, incongruence, self-accountability, revealing a negative aspect of self to others, and not revealing a positive aspect of self to others predicted experiences of shame (Table 9). Shame was differentiated from guilt and embarrassment in that guilt involved low acceptability and embarrassment did not involve a decrease in positive evaluation from others. Similar to the effect of age on embarrassment, younger age also predicted experiences of shame ($\beta = -.091$, $p = .028$).

I originally hypothesized that shame would be associated with the motivational goal of getting away from people; indeed, shame predicted wanting to get away from others (Table 10). Based on previous research and the motivational goal of getting away from others, I hypothesized that shame would prompt the use of drugs (Dearing, Stuewig, & Tangney, 2005), self-isolation (Reid, Harper, & Anderson, 2009), and self-restraint. The data supported these hypotheses, with shame predicting the use of these coping strategies as expected (Table 12).

In the mediation model for drug use ($F(4, 341) = 8.13$, $p < .001$, $R^2 = .087$), the motivational goal of getting away from others ($\beta = .24$, $p < .001$) fully mediated the effect of shame ($\beta = .067$, $p = .29$) on the use of drugs, and this mediation effect was significant ($p < .001$). Similarly, the mediation model for self-isolation ($F(4, 341) = 70.53$, $p < .001$, $R^2 = .45$)

also showed that wanting to get away from others (β = .71, $p < .001$) mediated the effect of shame (β = −.059, $p = .23$) on coping via self-isolation, and this mediation effect was significant as well ($p < .001$). Finally, in the mediation model for self-restraint ($F(4, 341) = 3.96$, $p < .01$, $R^2 = .044$), the motivational goal of getting away from others (β = .13; $p = .049$) fully mediated the effect of shame (β = .099; $p = .13$) on the use of self-restraint, though this mediation effect was only marginally significant ($p = .052$).

Negative Emotions: Threat-Related

Anxiety. In line with Smith and Lazarus (1990), I hypothesized that anxiety's key appraisal would be low emotion-focused coping potential. Indeed, appraisals of motivational relevance, incongruence, and low emotion-focused coping potential predicted the experience of anxiety (Table 9). In the exploratory regression model, the appraisal of the involvement of the unknown also predicted anxiety.

I also hypothesized that anxiety would be associated with the desire to prevent danger or threat. Yet, both the hypothesized and the exploratory regression models showed that anxiety did not predict the motivational goal of preventing threat as expected, nor did it correspond with any other motivational goals (Table 10).

In terms of coping, I hypothesized that anxiety would correspond with the use of active coping (LeDoux & Gorman, 2001; Schmidt et al., 2010), information seeking (Thompson, 1994), rumination or cognitive focus (Kocovski, Endler, Rector, & Flett, 2005; Myers, 1998; Schmidt et al., 2010), and drugs or alcohol to cope (Comeau, Stewart, & Loba, 2001; Kushner, Sher, & Beitman, 1990; Schmidt et al., 2010). However, experiences of anxiety only predicted rumination (Table 12). Because anxiety did not predict any motivational goals in Study 1, I did

not conduct a mediation model to determine if motivation mediated the observed relationship between emotion and coping. However, wanting to prevent threat was a predictor of the use of rumination (Table 11).

Fear. As suggested by Smith and Lazarus (1990), I hypothesized that fear would correspond with appraisals of urgency and low emotion-focused coping potential. Indeed, appraisals of motivational incongruence, low emotion-focused coping potential, and urgency predicted fear as expected (Table 9).

I originally hypothesized that, similar to anxiety, fear would be affiliated with the motivational goal of preventing danger or threat; moreover, fear should also prompt the motivational goal of getting to safety (Roseman, 2013). Fear predicted both wanting to prevent threat and wanting to get to safety, and unexpectedly, fear also predicting the motivational goals of getting away from the situation, protecting from contamination, and undoing the situation (Table 10). In line with these motivational goals, I hypothesized that fear would predict the use of active coping and physical disengagement, as well as suppression (Nielsen & Shapiro, 2009). However, fear only predicted the use of physical disengagement (Table 12).

The mediation model ($F(8, 337) = 35.49$, $p < .001$, $R^2 = .46$) indicated that the motivational goals of getting away from the situation ($\beta = .62$, $p < .001$), getting to safety ($\beta = .21$, $p < .01$), and preventing threat ($\beta = -.090$, $p = .062$) fully accounted for the relationship between fear ($\beta = -.086$, $p = .12$) and the use of physical disengagement. The mediation effects for wanting to get away and get to safety were significant (both ps $< .001$), but the mediation effect for wanting to prevent threat was not significant ($p = .16$).

Positive Emotions: Benefit-Related

I hypothesized that the appraisal of motivational relevance would correspond with each positive emotion except tranquility (Ellsworth & Smith, 1988; Smith et al., 2014). In contrast to the negative emotions, which were hypothesized to correspond with motivational incongruence, most of the positive emotions should be associated with the appraisal of high congruence unless otherwise noted for particular emotions (Kirby et al., 2014; Smith et al., 2014). I now present the hypotheses and results for each positive emotion; unless otherwise reported, the model fit statistics for all regression models are presented in Table 13.

Happiness/Joy. I expected that goal attainment would be the key appraisal associated with experiences of joy (Smith et al., 2014; Tong, 2015). In line with these hypotheses, appraisals of motivational relevance, congruence, and goal attainment predicted joy (Table 14).

In terms of motivation, I hypothesized that joy would prompt the motivational goal of sustaining the situation at hand. As expected, joy predicted wanting to sustain, as well as wanting to savor (Table 15). In turn, wanting to savor and to sustain predicted the use of various coping strategies (Table 16). Stemming from these motivational goals, I hypothesized that joy would predict savoring and sustaining. Indeed, experiences of joy predicted both savoring and sustaining (Table 17).

In the mediation model for savoring ($F(5, 340) = 203.00$, $p < .001$, $R^2 = .75$), the motivational goals of savoring ($\beta = .60$) and sustaining ($\beta = .14$) partially mediated the effect of joy ($\beta = .16$) on savoring (all ps $< .01$). Additionally, in the mediation model for sustaining ($F(5, 340) = 81.60$, $p < .001$, $R^2 = .55$), wanting to savor ($\beta = .13$, $p = .093$) and to sustain ($\beta = .63$, $p < .001$) fully mediated the relationship between joy ($\beta = -.012$, $p = .85$) and actual sustaining. All of these mediation effects were statistically significant (all ps $< .001$).

Table 13. Model fit statistics for all positive emotion regression models.

Outcome Variable	Hypothesized Regression Model	Exploratory Regression Model
Appraisal-Emotion Models		
Affection	$F(5, 340) = 30.99$ ***, $R^2 = .31$	$F(17, 328) = 10.78$ ***, $R^2 = .36$
Amusement	$F(6, 339) = 21.95$ ***, $R^2 = .29$	$F(17, 328) = 11.32$ ***, $R^2 = .37$
Awe	$F(7, 338) = 19.06$ ***, $R^2 = .28$	$F(17, 328) = 8.55$ ***, $R^2 = .31$
Compassion	$F(5, 340) = 12.27$ ***, $R^2 = .15$	$F(17, 328) = 4.60$ ***, $R^2 = .19$
Determination	$F(6, 339) = 17.79$ ***, $R^2 = .24$	$F(17, 328) = 9.25$ ***, $R^2 = .32$
Gratitude	$F(6, 339) = 57.76$ ***, $R^2 = .51$	$F(17, 328) = 23.48$ ***, $R^2 = .55$
Hope	$F(6, 339) = 72.70$ ***, $R^2 = .56$	$F(17, 328) = 29.90$ ***, $R^2 = .61$
Interest	$F(3, 342) = 11.46$ ***, $R^2 = .091$	$F(17, 328) = 27.24$ ***, $R^2 = .59$
Joy	$F(5, 340) = 125.50$ ***, $R^2 = .65$	$F(17, 328) = 41.33$ ***, $R^2 = .68$
Pride	$F(7, 338) = 36.54$ ***, $R^2 = .43$	$F(18, 327) = 15.78$ ***, $R^2 = .46$
Relief	$F(6, 339) = 23.50$ ***, $R^2 = .29$	$F(17, 328) = 10.43$ ***, $R^2 = .35$
Tranquility	$F(4, 341) = 50.54$ ***, $R^2 = .37$	$F(17, 328) = 14.98$ ***, $R^2 = .44$
Emotion-Coping Models		
Acceptance	$F(4, 341) = 2.99$ *, $R^2 = .034$	$F(22, 323) = 1.97$ **, $R^2 = .12$
Active Coping	$F(8, 337) = 9.27$ ***, $R^2 = .18$	$F(22, 323) = 4.40$***, $R^2 = .23$
Behavioral Disengagement	$F(4, 341) = 33.82$ ***, $R^2 = .28$	$F(22, 323) = 9.83$ ***, $R^2 = .40$
Drug Use	$F(4, 341) = 4.39$ **, $R^2 = .049$	$F(22, 323) = 2.52$ ***, $R^2 = .15$
Helping	$F(3, 342) = 63.04$ ***, $R^2 = .36$	$F(22, 323) = 10.74$ ***, $R^2 = .42$
Humor	$F(3, 342) = 4.57$ **, $R^2 = .039$	$F(22, 323) = 3.80$ ***, $R^2 = .21$
Information Seeking	$F(5, 340) = 21.72$ ***, $R^2 = .24$	$F(22, 323) = 7.50$ ***, $R^2 = .34$
Perseverance	$F(3, 342) = 47.38$ ***, $R^2 = .29$	$F(22, 323) = 7.76$ ***, $R^2 = .35$
Planning	$F(3, 342) = 35.56$ ***, $R^2 = .24$	$F(22, 323) = 7.02$ ***, $R^2 = .32$
Reprioritization	$F(2, 343) = 0.74$ ***, $R^2 = .0043$	$F(22, 323) = 3.42$ ***, $R^2 = .19$
Rumination	$F(3, 342) = 15.30$ ***, $R^2 = .12$	$F(22, 323) = 6.40$ ***, $R^2 = .30$
Savoring	$F(4, 341) = 121.00$ ***, $R^2 = .59$	$F(22, 323) = 28.20$ ***, $R^2 = .66$
Self-Encouragement	$F(3, 342) = 16.88$ ***, $R^2 = .13$	$F(22, 323) = 3.64$ ***, $R^2 = .20$
Social Support	$F(4, 341) = 8.06$ ***, $R^2 = .086$	$F(22, 323) = 3.01$ ***, $R^2 = .17$
Sustaining	$F(3, 342) = 60.33$ ***, $R^2 = .35$	$F(22, 323) = 10.61$ ***, $R^2 = .42$
Taking Accountability	$F(5, 340) = 24.20$ ***, $R^2 = .26$	$F(22, 323) = 8.63$ ***, $R^2 = .37$
Understanding	$F(4, 341) = 5.15$ ***, $R^2 = .057$	$F(22, 323) = 5.42$ ***, $R^2 = .27$
Wishful Thinking	$F(3, 342) = 9.05$ ***, $R^2 = .074$	$F(22, 323) = 11.54$ ***, $R^2 = .45$

(Table 13 continued)

Outcome Variable	Hypothesized Regression Model	Exploratory Regression Model
Emotion-Motivation Models		
Be Close	$F(3, 342) = 23.76$ ***, $R^2 = .17$	$F(22, 323) = 6.91$ ***, $R^2 = .32$
Acknowledge	$F(4, 341) = 8.76$ ***, $R^2 = .093$	$F(22, 323) = 5.04$ ***, $R^2 = .26$
Assimilate	$F(4, 341) = 2.96$ ***, $R^2 = .033$	$F(22, 323) = 5.11$ ***, $R^2 = .26$
Have Happen	$F(3, 342) = 18.99$ ***, $R^2 = .14$	$F(22, 323) = 5.36$ ***, $R^2 = .27$
Help	$F(3, 342) = 66.42$ ***, $R^2 = .37$	$F(22, 323) = 10.85$ ***, $R^2 = .42$
Persevere	$F(3, 342) = 32.47$ ***, $R^2 = .22$	$F(22, 323) = 9.36$ ***, $R^2 = .39$
Recognize Other	$F(3, 342) = 57.96$ ***, $R^2 = .34$	$F(22, 323) = 22.82$ ***, $R^2 = .61$
Recognize Self	$F(3, 342) = 38.78$ ***, $R^2 = .25$	$F(22, 323) = 9.12$ ***, $R^2 = .38$
Recover	$F(4, 341) = 45.71$ ***, $R^2 = .35$	$F(22, 323) = 9.60$ ***, $R^2 = .40$
Seek Information	$F(3, 342) = 27.44$ ***, $R^2 = .19$	$F(22, 323) = 6.62$ ***, $R^2 = .31$
Savor	$F(3, 342) = 72.26$ ***, $R^2 = .39$	$F(22, 323) = 44.83$ ***, $R^2 = .75$
Sustain	$F(3, 342) = 167.10$ ***, $R^2 = .59$	$F(22, 323) = 28.15$ ***, $R^2 = .66$
Motivation-Coping Models		
Active Coping	$F(8, 337) = 12.81$ ***, $R^2 = .23$	$F(22, 323) = 7.06$ ***, $R^2 = .32$
Drug Use	$F(4, 341) = 7.92$ ***, $R^2 = .085$	$F(22, 323) = 3.64$ ***, $R^2 = .20$
Helping	$F(3, 342) = 172.80$ ***, $R^2 = .60$	$F(22, 323) = 27.47$ ***, $R^2 = .65$
Humor	$F(4, 341) = 2.78$ *, $R^2 = .032$	$F(22, 323) = 1.88$ *, $R^2 = .11$
Information Seeking	$F(6, 339) = 80.15$ ***, $R^2 = .58$	$F(22, 323) = 23.54$ ***, $R^2 = .62$
Perseverance	$F(3, 342) = 70.49$ ***, $R^2 = .38$	$F(22, 323) = 11.67$ ***, $R^2 = .44$
Planning	$F(3, 342) = 40.45$ ***, $R^2 = .26$	$F(22, 323) = 8.34$ ***, $R^2 = .36$
Reprioritization	$F(2, 343) = 0.74$, $R^2 = .0043$	$F(22, 323) = 3.03$ ***, $R^2 = .17$
Rumination	$F(3, 342) = 4.31$ **, $R^2 = .036$	$F(22, 323) = 7.59$ ***, $R^2 = .34$
Savoring	$F(4, 341) = 244.30$ ***, $R^2 = .74$	$F(22, 323) = 48.79$ ***, $R^2 = .77$
Self-Encouragement	$F(3, 342) = 46.51$ ***, $R^2 = .29$	$F(22, 323) = 7.95$ ***, $R^2 = .35$
Social Support	$F(4, 341) = 20.87$ ***, $R^2 = .20$	$F(22, 323) = 4.39$ ***, $R^2 = .23$
Suppression	$F(8, 337) = 7.53$ ***, $R^2 = .15$	$F(22, 323) = 7.34$ ***, $R^2 = .33$
Sustaining	$F(3, 342) = 134.30$ ***, $R^2 = .54$	$F(22, 323) = 20.30$ ***, $R^2 = .58$
Taking Accountability	$F(5, 340) = 16.12$ ***, $R^2 = .19$	$F(22, 323) = 6.31$ ***, $R^2 = .30$
Understanding	$F(5, 340) = 40.00$ ***, $R^2 = .37$	$F(22, 323) = 12.43$ ***, $R^2 = .46$
Wishful Thinking	$F(3, 342) = 10.34$ ***, $R^2 = .083$	$F(22, 323) = 14.64$ ***, $R^2 = .50$

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

Table 14. Coefficients for appraisal-to-positive emotion regression models.

PREDICTOR VARIABLES	OUTCOME VARIABLE											
	Aff	Amuse	Awe	Comp	Det	Grat	Hope	Int	Joy	Pride	Rel	Tranq
Acceptability				**.10**								
Expectation Congruence		**.11 ***										
Future Expectancy					**−.015**		**.094 ***					
Goal Attainment						**.073**			**.12 ****	**.057**	**.14 ***	
Involvement of Unknown			**−.025**				**.085 ***					
Motivational Congruence	**.51 *****	**.47 *****	**.43 *****	**.34 *****	**.29 *****	**.61 *****	**.62 *****	*.36 **	**.70 *****	**.32 *****	**.41 *****	**.58 *****
Motivational Relevance	**.11 ***	**−.037**	**.14 ****	**.11 ***	**.27 *****	**.17 *****	**.26 *****	**.29 *****	**.11 ****	**.15 *****	**.12 ***	
Other-Accountability	**.043**	**.11 ***	**.13 ****			**.064**					**.039**	
PFCP					**.10**							
Positive Evaluation		*.22 **						*.23 **		**.27 *****		
Self-Accountability										**.12 ****	*.17 **	
Urgency		*−.17 **									*.16 **	**−.090 ***
Vastness			**.12 ***			*.13 **						

Note. The standardized regression coefficients are bolded for the hypothesized appraisal-emotion regression models. All findings for the predictor (i.e., appraisal) variables from the hypothesized regression models are reported. For the exploratory regression models, only the significant results (after applying the Bonferroni correction to correct for multiple comparisons) are reported. The standardized regression coefficients of the significant predictors are italicized. Asterisks indicate significance (* $p < .05$, ** $p < .01$, *** $p < .001$). The predictor (i.e., appraisal) variables are shortened as follows: PFCP = problem-focused coping potential. The outcome (i.e., emotion) variables are shortened as follows: Aff = affection; Amuse = amusement; Comp = compassion; Det = determination; Grat = gratitude; Int = interest; Rel = relief; and Tranq = tranquility.

Table 15. Coefficients for positive emotion-to-motivation regression models.

PREDICTOR VARIABLES	OUTCOME VARIABLE												
	Ack	Adj	Be Close	Have Happ	Help	Make Amends	Pers	Rec Other	Rec Self	Recover	Savor	Seek Info	Sustain
Affection			**.33** ***					*.29* ***				*−.26* **	
Amusement	**.064**	**.12**									*.17* ***		
Awe	**.20** **	**−.015**					*−.23* ***						
Compassion			*.27* ***		**.60** ***	*.28* ***		*.25* ***					
Determination		*.22* **		*.24* ***			**.45** ***						
Gratitude								**.57** ***					
Hope				**.33** ***									
Interest												**.42** ***	
Joy											*.36* ***		**.76** ***
Pride									**.50** ***				
Relief										**.0037**			
Tranquility											**.61** ***		

Note. The standardized regression coefficients are bolded for the hypothesized emotion-motivation regression models. The outcome variable in each regression model is a motivational goal. All findings for the emotion variables from the hypothesized regression models are reported. For the exploratory regression models, only the significant results (after applying the Bonferroni correction to correct for multiple comparisons) are reported. The standardized regression coefficients of the significant predictors are italicized. Asterisks indicate significance (* $p < .05$, ** $p < .01$, *** $p < .001$). The outcome (i.e., motivational goal) variables are abbreviated or shortened as follows: Ack = acknowledge; Adj = assimilate or adjust; Have Happ = have happen; Pers = persevere; Rec Other = recognize someone else; and Rec Self = recognize self.

Table 16. Coefficients for motivation-to-coping for the positive emotion regression models.

PRED. VAR.	OUTCOME VARIABLE																
	A	AC	Hel	Hum	IS	Per	Pla	Rep	Rum	Sav	SE	SS	Sup	Sus	TA	U	WT
Ack	**.14****			**−.050**	**.24*****											**.28*****	
Adj	**.13*****			**.19****				*.22***									
Be Close		*−.23****							*.23****			**.21*****	*.19 ***				
Have Happ																	**.28*****
Help			**.78*****														
Pers		**.38*****				**.61*****	**.49*****				**.54*****						
Rec Other		**−.053**	*.20****														
Rec Self															**.22*****		
Savor										**.69*****							
Seek Info					**.62*****				*.34****			**.28*****				**.35*****	
Sustain										**.19*****				**.73*****			

Note. The standardized regression coefficients are bolded for the hypothesized motivation-coping regression models. The predictor variables are the motivational goal variables originally hypothesized and shown to correspond to a positive emotion. The outcome variable in each regression model is a coping strategy. All findings for the motivational goal variables from the hypothesized regression models are reported. For the exploratory regression models, only the significant results (after applying the Bonferroni correction to correct for multiple comparisons) are reported. The standardized regression coefficients of the significant predictors are italicized. Asterisks indicate significance (* $p < .05$, ** $p < .01$, *** $p < .001$). The predictor (i.e., motivational goal) variables are abbreviated or shortened as follows: Ack = acknowledge; Adj = adjust; Have Happ = have happen; Pers = persevere; Rec Other = recognize someone else; and Rec Self = recognize self. The outcome (i.e., coping) variables are abbreviated or shortened as follows: A = acceptance; AC = active coping; D = denial; Hel = help; Hum = use of humor; IS = information seeking; Per = perseverance; Pla = planning; Rep = reprioritization/minimization; Rum = rumination/cognitive focus; Sav = savoring; SE = self-encouragement; SS = seeking social support; Sus = sustaining; TA = taking accountability; Und = understanding; and WT = wishful thinking.

Table 17. Coefficients for positive emotion-to-coping regression models.

PRED. VAR.	OUTCOME VARIABLES																	
	A	AC	BD	DU	Hel	Hum	IS	Per	Pla	Rep	Rum	Sav	SE	SS	Sus	TA	U	WT
Aff					*.30****							*.20****		**.07**				
Amuse	**−.08**			*.30****		**.19*****						*.17***						
Awe	**−.05**						**.00**									*-.24****	**−.071**	
Comp					**.59*****		*.26****										*.38****	
Det		**.37*****					*.25****	**.53*****	**.47*****				**.35*****					
Grat		**.02**								*−.35****								
Hope																		**−.26*****
Int							**.47*****							**.11**			**.21*****	
Joy												**.70*****			**.57*****			
Pride																**.23*****		
Rel			**.01**															
Tranq											*−.28****	**.07**						

Note. The standardized regression coefficients are bolded for the hypothesized motivation-coping regression models. The predictor variables are the motivational goal variables originally hypothesized and shown to correspond to a positive emotion. The outcome variable in each regression model is a coping strategy. All findings for the motivational goal variables from the hypothesized regression models are reported. For the exploratory regression models, only the significant results (after applying the Bonferroni correction to correct for multiple comparisons) are reported. The standardized regression coefficients of the significant predictors are italicized. Asterisks indicate significance (* $p < .05$, ** $p < .01$, *** $p < .001$). The predictor (i.e., emotion) variables are shortened as follows: Aff = affection; Amuse = amusement; Comp = compassion; Det = determination; Grat = gratitude; Int = interest; Rel = relief; and Tranq = tranquility. The outcome (i.e., coping) variables are abbreviated or shortened as follows: A = acceptance; AC = active coping; D = drug use; Hel = help; Hum = use of humor; IS = information seeking; Per = perseverance; Pla = planning; Rep = reprioritization/minimization; Rum = rumination/cognitive focus; Sav = savoring; SE = self-encouragement; SS = seeking social support; Sus = sustaining; TA = taking accountability; Und = understanding; and WT = wishful thinking.

Awe. I hypothesized that experiences of awe would be associated with appraisals of other-accountability, involvement of the unknown, and vastness (Shiota et al., 2007; Smith et al., 2014; Tong, 2015). Appraisals of motivational relevance, congruence, other-accountability, and vastness all predicted experiences of awe, but the involvement of the unknown did not significantly predict awe (Table 14).

In light of its appraisal pattern, I predicted that awe would correspond with the motivational goals of acknowledgment and assimilation (Shiota et al., 2007; Smith et al., 2014), Experiences of awe predicted wanting to acknowledge what was going on in the situation at hand, but contrary to original hypotheses, awe did not predict wanting to assimilate (Table 15). Interestingly, awe predicted a decrease in the desire to persevere. In light of these motivational goals, awe should predict coping via acceptance, information seeking, and understanding. However, experiences of awe did not predict any of these hypothesized coping strategies, and rather, awe predicted a decrease in taking accountability for the situation at hand (Table 17).

According to the mediation model ($F(5, 340) = 11.72$, $p < .001$, $R^2 = .15$), the desire to persevere ($\beta = .35$, $p < .001$) appeared to fully mediate the relationship between awe ($\beta = -.079$, $p = .13$) and taking accountability to cope, but the Aroian test revealed that this mediation effect was not significant ($p = .35$).

Tranquility. I hypothesized that the appraisal of the lack of urgency would be the key appraisal that would differentiate tranquility from other positive emotions (Smith et al., 2014). Otherwise stated, urgency should be negatively correlated with experiences of tranquility (Smith et al., 2014). Supporting this hypothesis, appraisals of motivational congruence and low urgency predicted tranquility (Table 14). I also hypothesized that experiences of tranquility would motivate the motivational goal of savoring (Smith et al., 2014) as well as actual savoring

behavior. Though tranquility predicted wanting to savor as expected (Table 15), experiences of tranquility did not predict actual savoring (Table 17). Rather, tranquility unexpectedly predicted a decrease in the use of rumination, or a decrease in cognitively focusing on the situation at hand.

In the mediation model ($F(4, 341) = 6.79$, $p < .001$, $R^2 = .074$), wanting to savor ($\beta = .23$) partially mediated the negative relationship between tranquility ($\beta = -.32$) and the use of rumination (both ps $< .001$), and this mediation effect was significant ($p < .001$).

Relief. I hypothesized that relief would be associated with appraisals of other-accountability and goal attainment (Tong, 2015). Appraisals of motivational relevance, congruence, and goal attainment predicted experiences of relief, but other-accountability was not a significant predictor of relief as expected (Table 14). In addition, self-accountability and urgency became significant predictors of relief in the exploratory regression model.

I also predicted that relief would motivate the goal of wanting to recover from the current situation (Roseman, 2013), thereby prompting the use of behavioral disengagement. Contrary to these hypotheses, experiences of relief did not predict wanting to recover or any other motivational goals (Table 15), nor did relief predict the use of behavioral disengagement or any other coping strategies (Table 17). Therefore, no mediation models were conducted for this set of emotion-to-coping hypotheses.

Amusement. I hypothesized that appraisals of low expectation congruence (or expectation incongruence) and other-accountability would correspond with experiences of amusement (Smith et al., 2014; Tong, 2015). As hypothesized, appraisals of motivational congruence and other-accountability predicted amusement (Table 14). However, expectation congruence, rather than incongruence as originally hypothesized, predicted amusement; this finding suggests that amusement is experienced when a situation is congruent with one's

expectations. In the exploratory regression model, appraisals of positive evaluation by others and low urgency also significantly predicted experiences of amusement.

I hypothesized that amusement would predict wanting to acknowledge and assimilate to the situation (Smith et al., 2014), and based on these motivational goals, amusement should predict the use of acceptance and humor to cope. Amusement did not predict wanting to acknowledge the situation at hand, nor did it predict wanting to assimilate or adjust to what was going on (Table 15). Yet, experiences of amusement unexpectedly predicted the motivational goal of savoring. In terms of coping, amusement predicted the use of humor, but not acceptance; in addition, experiences of amusement also predicted drug use and savoring (Table 17). The lack of association between amusement and acceptance makes sense, in light of the lack of relationship between amusement and the motivational goal of acknowledging.

In the mediation model for savoring ($F(4, 341) = 239.20$, $p < .001$, $R^2 = .74$), wanting to savor ($\beta = .76$) partially mediated the effect of amusement ($\beta = .12$) on savoring (both ps $< .01$). In addition, in the mediation model for humor ($F(4, 341) = 5.76$, $p < .001$, $R^2 = .063$), the motivational goal of savoring ($\beta = -.22$) partially mediated the relationship between amusement ($\beta = .34$) and using humor to cope (both ps $< .01$). Finally, in the mediation model for drug use ($F(4, 341) = 4.37$, $p < .01$, $R^2 = .049$), the desire to savor ($\beta = -.14$, $p = .061$) partially mediated the effect of amusement ($\beta = .27$; $p < .001$) on drug use. In this case, the use of drugs and alcohol might represent a means of enjoying the present situation. All of these mediation effects on amusement and the use of coping strategies were statistically significant (all ps $< .038$).

Pride. According to previous research, appraisals of self-accountability, goal attainment, and positive evaluation by others (i.e., revealing a positive aspect of oneself) should correspond with experiences of pride (Smith et al., 2014; Tong, 2015). Indeed, appraisals of motivational

relevance, congruence, self-accountability, and positive evaluation by others predicted pride (Table 14). However, the appraisal of goal attainment did not predict experiences of pride as expected.

I also hypothesized that pride would motivate the desire to recognize oneself (Roseman, 2013; Smith et al., 2014), and that this would prompt taking accountability for the situation at hand. Indeed, experiences of pride predicted the motivational goal of recognizing oneself (Table 15) and also the coping strategy of taking accountability (Table 17).

In the mediation model ($F(4, 341) = 6.85$, $p < .001$, $R^2 = .074$), the motivational goal of recognizing oneself ($\beta = .30$, $p < .001$) fully mediated the relationship between pride ($\beta = -.075$, $p = .21$) and taking accountability. The Aroian test indicated that this mediation effect was significant ($p < .001$).

Gratitude. I hypothesized that gratitude would correspond with appraisals of other-accountability, the involvement of others, and goal attainment or realization (Smith et al., 2014; Tong, 2015). However, only appraisals of motivational relevance and congruence predicted gratitude (Table 14). In the exploratory regression model, the appraisal of vastness also predicted gratitude.

I also predicted that gratitude would prompt the motivational goal of recognizing someone else, rather than oneself (Smith et al., 2014). Indeed, experiences of gratitude predicted wanting to recognize another person (Table 15). In line with its motivational goal, I hypothesized that gratitude would predict active coping, but the data did not support this prediction, though gratitude predicted a decrease in the use of reprioritization or minimization of goals (Table 17).

The mediation model ($F(4, 341) = 9.33$, $p < .001$, $R^2 = .099$) showed that wanting to recognize someone else ($\beta = .071$, $p = .26$) did not mediate the effect of gratitude ($\beta = -.34$, $p < .001$) on the use of reprioritization.

Affection. I hypothesized that affection would be associated with appraisals of other-accountability (Tong, 2015). As expected, appraisals of motivational relevance and congruence predicted experiences of affection, whereas other-accountability was not a significant predictor (Table 14). Being female also predicted experiences of affection ($\beta = .15$, $p < .01$).

I further hypothesized that affection would correspond with the motivational goal of being close to someone (Roseman, 2013; Smith et al., 2014), and therefore hypothesized that affection would predict the use of social support to cope. In terms of motivation, experiences of affection predicted wanting to be close to another person; in addition, affection also predicted wanting to recognize another person and a decrease in the desire to seek more information (Table 15). However, affection did not predict the use of social support, but rather, experiences of affection predicted helping others and savoring (Table 17).

The mediation model for helping ($F(6, 339) = 37.86$, $p < .001$, $R^2 = .40$) indicated that the motivational goal of being close to someone else ($\beta = .082$, $p = .091$) and recognizing someone else ($\beta = .38$, $p < .001$) partially mediated the effect of affection ($\beta = .25$, $p < .001$) on helping another person as a means of coping. Both of these mediation effects were significant (both ps $< .001$). In the mediation model for savoring ($F(6, 339) = 53.78$, $p < .01$, $R^2 = .49$), the strength of association between affection and savoring ($\beta = .39$, $p < .001$) increased after accounting for the motivational goals associated with affection, indicating that motivation did not mediate this emotion-coping relationship.

Compassion. Based on the discussion of compassion by Smith et al. (2014), I hypothesized that compassion would correspond with appraisals of motivational incongruence and low social acceptability of the situation, such that these appraisals would negatively correlate with experiences of compassion. However, acceptability did not predict experiences of compassion as expected, nor did low motivational congruence (Table 14). Rather, appraisals of motivational relevance and congruence, rather than incongruence, predicted compassion; in other words, higher ratings of congruence predicted higher ratings of compassion.

I expected compassion to motivate the desire to help others (Smith et al., 2014), and this hypothesis was supported by the data (Table 15). Compassion also predicted wanting to be close to others, to make amends, and to recognize another person. Stemming from the motivational goal of helping others, I hypothesized that compassion would predict the use of helping another person as a means of coping. Indeed, experiences of compassion predicted helping behavior, and in addition, compassion predicted coping via seeking information and trying to understand the situation at hand (Table 17).

In the mediation model for helping ($F(7, 338) = 84.59$, $p < .001$, $R^2 = .64$), the motivational goals of being close to others ($\beta = -.078$, $p = .052$), helping another person ($\beta = .62$, $p < .001$), and recognizing someone else ($\beta = .10$, $p = .034$) partially mediated the effect of compassion ($\beta = .18$, $p < .001$) on the use of helping to cope. Furthermore, in the mediation model for information seeking ($F(7, 338) = 14.89$, $p < .001$, $R^2 = .24$), wanting to help someone else ($\beta = .31$) partially mediated the relationship between compassion ($\beta = .17$) and the use of information seeking to cope (both ps $< .01$). Finally, in the mediation model for understanding ($F(7, 338) = 15.71$, $p < .001$, $R^2 = .25$), the motivational goals of helping ($\beta = .15$), making amends ($\beta = .29$), and recognizing another person ($\beta = -.14$) partially mediated the effect of

compassion (β = .24) on the use of understanding (all *p*s < .041). All of these mediation effects on compassion and coping were statistically significant (all *p*s < .034) except for the effect of wanting to recognize someone else on the use of understanding (*p* = .54).

Positive Emotions: Opportunity-Related

Interest. I hypothesized that the appraisal of motivational relevance would predict experiences of interest, because emotion theory proposes that interest is elicited solely by the evaluation that a situation or stimulus is relevant to one's goals (Smith et al., 2014). Indeed, the appraisal of motivational relevance predicted interest, along with appraisals of motivational congruence and positive evaluation by others (Table 14).

I hypothesized that interest would motivate the motivational goal of seeking information (Silvia, 2008; Smith et al., 2014), and thus, interest should predict the actually seeking information, seeking social support, and trying to understand the situation at hand. Experiences of interest predicted wanting to seek information as originally hypothesized (Table 15). In terms of behavior, interest predicted information seeking and understanding as expected, but not the use of social support (Table 17).

In the mediation model for information seeking ($F(4, 341) = 109.80$, $p < .001$, $R^2 = .56$), wanting to seek information (β = .64) partially mediated the effect of interest (β = .18) on actual information seeking (both *p*s < .001). In addition, in the mediation model for understanding ($F(4, 341) = 28.64$, $p < .001$, $R^2 = .25$), the motivational goal of seeking information (β = .50, $p < .001$) fully mediated the relationship between interest (β = −.0033, $p = .95$) and trying to understand. Both mediation effects were statistically significant (both *p*s < .001).

Challenge/Determination. I hypothesized that appraisals of motivational incongruence, high problem-focused coping potential, and high future expectancy would predict determination (Kirby et al., 2014; Smith et al., 2014; Tong, 2015). Though future expectancy did not predict experiences of determination, appraisals of motivational relevance, congruence, and problem-focused coping potential ($p = .070$) predicted determination as expected (Table 14). Interestingly, appraisals of high motivational congruence, rather than incongruence as originally hypothesized, predicted determination. In addition, older age ($\beta = .15$) and being male ($\beta = -.10$) predicted experiences of determination (both ps $< .037$).

I hypothesized that determination would predict the motivational goal of perseverance (Kirby et al., 2014; Roseman, 2013). Indeed, experiences of determination predicted wanting to persevere, as well as wanting to adjust and to have a desired outcome happen (Table 15). Based on previous research, I also hypothesized that determination would predict the use of active coping, perseverance, planning, and self-encouragement to cope (Kirby et al., 2014). The data supported these predictions, and in addition, experiences of determination also predicted information seeking (Table 17).

In the mediation model for active coping ($F(6, 339) = 18.25$, $p < .001$, $R^2 = .24$), the motivational goal of persevering ($\beta = .32$) partially mediated the effect of determination ($\beta = .20$) on the use of active coping (both ps $< .001$). Moreover, in the mediation model for perseverance ($F(6, 339) = 50.23$, $p < .001$, $R^2 = .47$), wanting to persevere ($\beta = .45$) and to have a desired outcome happen ($\beta = .10$) partially mediated the relationship between determination ($\beta = .30$) and perseverance (all ps $< .033$). As for the mediation model for planning ($F(6, 339) = 29.21$, $p < .001$, $R^2 = .34$), the motivational goal of persevering ($\beta = .31$) again partially mediated the effect of determination ($\beta = .29$) on coping via planning (both ps $< .001$). In the mediation model for

self-encouragement ($F(6, 339) = 26.92$, $p < .001$, $R^2 = .32$), the motivational goals of persevering ($\beta = .38$, $p < .001$), assimilating ($\beta = .11$, $p = .034$), and having happen ($\beta = .094$, $p = .081$) partially mediated the relationship between determination ($\beta = .12$, $p = .024$) and self-encouragement. Finally, in the mediation model for information seeking, the relationship between determination and the use of information seeking increased in strength ($\beta = .30$, $p < .001$), thereby indicating the lack of mediation by motivational goals. Nonetheless, multiple Aroian tests indicated statistically significance for all other mediation effects (all ps $< .001$).

Hope. I hypothesized that appraisals of high future expectancy and the involvement of the unknown would be the key appraisals implicated with hope (Tong, 2015). Indeed, all of these appraisals, along with motivational relevance and congruence, predicted hope (Table 14).

Moreover, I hypothesized that hope would be associated with the motivational goal of having a desired outcome, or what the individual wants, occur (Roseman, 2013; Smith et al., 2014). Therefore, experiences of hope should also predict coping via wishful thinking. Quite paradoxically, hope predicted wanting a desire outcome happen (Table 15) as well as a decrease in the use of wishful thinking (Table 17).

In the mediation model, the strength of the effect of hope on the use of wishful thinking ($\beta = -.42$, $p < .001$) increased after accounting for the motivational goal of having happen, indicating a lack of mediation by this goal.

Discussion

Study 1 aimed to identify the patterns of appraisal, motivation, and coping associated with 8 negative emotions and 12 positive emotions as a means of differentiating between these distinct emotional experiences. Roseman (2013) theorized about the motivational goals linked to

different emotions, but empirical work in this domain is lacking. Thus, the primary goal of Study 1 was to corroborate the appraisal patterns of discrete emotions as proposed by theory and previous empirical research, while also exploring the motivational goals and coping strategies potentiated by these emotions. In general, I found unique patterns of appraisal, motivation, and behavior that differentiated these emotions. Of the 20 emotions, 11 emotions fully supported the predicted patterns of appraisal, and the remaining nine emotions partially supported my original hypotheses. In addition, 16 emotions fully supported the predicted patterns of motivational goals, and one emotion partially supported the hypothesized pattern. Finally, six emotions fully supported the predicted patterns of coping, with another eight emotions partially supporting my hypotheses.

Though not all hypotheses were supported in Study 1, especially the hypotheses on coping, the coherence between appraisal, emotion, motivation, and coping among the different negative and positive emotions was remarkable. For instance, appraisals of self-accountability, negative evaluation by others, and the lack of positive evaluation gave rise to shame, and shame prompted the motivational goal of getting away from other people. In turn, wanting to get away from others mediated the effect of shame on the uses of both drugs and self-isolation to cope. In contrast, appraisals of self-accountability and positive evaluation by others predicted experiences of pride, and pride prompted the desire to recognize oneself. This motivational goal then mediated the effect of pride on taking accountability. These instances are only a few examples of how Study 1 revealed the coherence between appraisal, emotion, motivation, and coping for 20 unique emotional experiences. To my knowledge, Study 1 is the first empirical study that demonstrates this unified structure of adaptation, from appraisal to emotion to motivation and

coping. Below I discuss the full adaptational process for the 20 emotions of interest in Study 1 and what distinguished each emotion, as well as unexpected findings related to each emotion.

Negative Emotions

Beginning with the harm-related emotions, appraisals of the lack of legitimacy, the involvement of the known (rather than the unknown), and negative evaluation by others differentiated anger from other negative emotions. Anger then predicted the use of emotional expression and suppression, and these relationships were mediated by the desire to harm others and to undo the situation, which were the motivational goals prompted by anger. The appraisal of low legitimacy may explain why anger prompts the desires of harming and undoing, and emotional expression likely serves to convey the anger associated with this illegitimacy to others in the social environment. Contrary to my original hypotheses, the appraisal of other-accountability was not the key appraisal that distinguished anger. Kuppens et al. (2003) suggested that the appraisal of other-accountability may not be a necessary appraisal component of anger, and rather, that the association between other-accountability and anger may tend to co-occur in most, but not all, situations. However, Qian and Smith (2016) applied mixture modeling to an aggregated dataset on anger-provoking situations and found that, although there existed different anger-eliciting appraisal groups, the group without other-accountability in its appraisal pattern could not be distinguished from the group with high other-accountability through conditional latent profile analysis. Future research should continue to test the role of other-accountability in experiences of anger.

In Study 1, low acceptability was the key appraisal that distinguished disgust from other negative emotions. Disgust's motivational goals of getting away and protecting oneself are

congruent with the perceived unacceptability of disgust-evoking situations. Along with these goals, disgust was the only negative emotion that prompted the motivation goal of assimilating and adjusting to the situation at hand; in particular, disgust predicted decreases in wanting to adjust. Though disgust is prompted by low acceptability, retreating and protecting oneself may not always be the most prominent goal for the individual, and thus, disgust also motivates the desire to adjust to this low acceptability. Supporting this idea, in terms of coping, disgust predicted the use of physical disengagement as well as the use of suppression, suggesting that one cannot or perhaps should not always disengage from the situation at hand. For example, when a guest is welcomed to the dinner party of a novice cook, the guest may suppress the desire to spit out what's in his mouth or to leave the party, so as to avoid offending the cook. Importantly, both the motivational goals of getting away from the situation and harming another person mediated the effects of disgust on coping. Study 1 advances our understanding of disgust by clarifying how individuals naturally cope with experiences of disgust; the literature tends to focus on how different strategies affect emotional experience, and therefore, previous research often instructs participants to employ a specific strategy to regulate disgust, rather than allowing participants to behave as they inherently would (Demaree et al., 2006; Gross, 1998).

Sadness/resignation corresponded with the unique appraisal pattern of low future expectancy, low emotion-focused coping potential, and negative evaluation by others. Experiences of sadness/resignation then predicted the use of multiple coping strategies such as behavioral disengagement, emotional expression, and suppression; the motivational goal of recovering, which was prompted by sadness/resignation, mediated the effect of this emotion on these coping strategies. Sadness/resignation also predicted the use of self-isolation to cope, and wanting to get away from others mediated this relationship. Poor prospects for the future and the

perception that one cannot successfully regulate emotion to cope with the situation is in line with the desire to recover during experiences of sadness, as well as the use of behavioral disengagement to cope. Notably, of all the negative emotions, sadness/resignation involved the broadest patterns of motivation and coping, and the use of these coping strategies was largely mediated by the motivational goals prompted by sadness/resignation. In general, sadness adhered to the hypothesized patterns of appraisal, motivation, and coping. Compared to the other negative emotions, only sadness/resignation was associated with appraisals of future expectancy, wanting to be close to others, and the use of behavioral disengagement and wishful thinking. However, the appraisal of problem-focused coping potential was not implicated in experiences of sadness/resignation as originally hypothesized. Previous research implicates low problem-focused coping potential with sadness/resignation (Frijda, 1987; Smith & Ellsworth, 1985), and thus, it is unclear why the appraisal of emotion-focused, rather than problem-focused, coping potential was implicated in experiences of sadness/resignation. Collinearity is not likely to be the issue, as emotion-focused and problem focused coping potential only shared a small correlation (Table 4). Future research should examine how different types of coping potential factor into experiences of sadness/resignation.

Three of the negative emotions—guilt, embarrassment, and shame—involved self-accountability and a social evaluative component. Focusing on guilt first, appraisals of self-accountability and low social acceptability predicted guilt as expected. In addition, appraisals of negative evaluation and the lack of positive evaluation by others also predicted experiences of guilt. Guilt then prompted the motivational goal of making amends, supporting the notion that the core theme of guilt is self-blame (Smith & Lazarus, 1990). Indeed, moral transgression and the perception that one is responsible match the desire for atonement and taking accountability as

a means of coping. The effect of guilt on taking accountability was mediated by the motivational goal of making amends, thereby underlining the coherence between the appraisal, motivation, and coping patterns for guilt. Guilt and disgust shared a similar appraisal pattern, but guilt involved self-accountability and social evaluative appraisal components. Guilt also motivated the use of taking accountability to cope, whereas disgust prompted a decrease in the use of this coping strategy

In contrast to the relatively complex appraisal pattern associated with guilt in Study 1, the key appraisals implicated in experiences of embarrassment were self-accountability and negative evaluation. Therefore, guilt was differentiated from embarrassment based on low social acceptability and a decrease how others positively perceived the individual. Embarrassment motivated the desire to get away from people and the situation at hand, and these motivational goals were not prompted by guilt. Finally, embarrassment was the only negative emotion to predict the use of reprioritization or minimization of goals, and this effect was mediated by the motivational goal of getting away from the present situation. Strangely, the appraisal of motivational relevance did not predict embarrassment, which implies that embarrassment may be experienced in situations that are not appraised as critically relevant to our goals and motivations. In other words, though a situation may be incongruent with but not especially relevant to one's goals, negative evaluation by others and the perception that oneself is responsible for the situation is sufficient to give rise to the experience of embarrassment. This notion is consistent with the idea that shame is produced in response to the exposure of a truly undesirable characteristic of oneself to others, whereas embarrassment is more likely to be elicited when one appears to reveal a flaw to others that one knows is not true (Keltner & Buswell, 1997; Sabini, Garvey, & Hall, 2001; Sabini & Silver, 2005). The perception of negative

evaluation by others and the sense that one was responsible for the situation, but the lack of moral transgression, explain why embarrassment motivates the desire to get away from others and the situation. Further demonstrating the coherence between appraisal, motivation, and coping, minimization of the situation is used to cope, rather than seeking atonement, because the individual does not actually feel that he or she has revealed a critical character flaw. In this case, reprioritization or minimization may represent cognitive reappraisal.

With regard to the final harm-related negative emotion, the key appraisals involved in experiences of shame were negative evaluation by others, the lack of positive evaluation by others, and self-accountability. The appraisal pattern of shame more closely matched guilt than embarrassment, but unlike guilt, shame did not involve the appraisal of low acceptability. This finding is consistent with the notion that guilt involves a moral component that shame may not particularly or necessarily have (Scherer, 1997). In terms of motivation and coping, shame was further differentiated from guilt in that shame prompted wanting to get away from others and using drugs and self-isolation to cope. The coherence between shame and these coping strategies was mediated by shame's motivational goal of getting away from people. Taken together, Study 1's findings for guilt, embarrassment, and shame advance our understanding of how these three negative emotions, all of which involve appraisals of negative evaluation and self-accountability, can be distinguished, especially on the basis of motivational and coping patterns as each of these three emotions prompted unique strategies for coping.

Moving on to the threat-related emotions, appraisals of low emotion-focused coping and the involvement of the unknown distinguished anxiety from the other negative emotions. Contrary to my original hypothesis, anxiety did not prompt the desire to prevent threat, nor did it predict any other motivational goals in the exploratory analyses. Thus, though anxiety predicted

the use of rumination to cope, a mediation model was not conducted to test the coherence between emotion and coping in this specific case. Future research should continue to investigate the motivations prompted by experiences of anxiety, such that researchers can better understand the specific strategies that individuals utilize to cope with anxiety.

Finally, appraisals of urgency and low emotion-focused coping potential predicted fear as hypothesized. Thus, fear was differentiated from anxiety by the appraisal of urgency corresponding with fear and the involvement of the unknown with anxiety. As was the case with embarrassment, motivational relevance did not predict experiences of fear. Extending beyond its appraisal pattern, fear predicted wanting to prevent threat and get to safety as well as the use of physical disengagement as a coping strategy, providing further differentiation of fear from anxiety. Notably, though both fear and disgust were implicated in the use of physical disengagement to cope, different motivational goals mediated these emotion-to-coping relationships. In particular, wanting to get to safety and to prevent threat mediated the effect of fear on the use of physical disengagement, whereas wanting to get away from the situation at hand mediated the relationship between disgust and this coping strategy. In this way, Study 1 demonstrated how, even when distinct emotions prompted the use of the same coping strategy, unique motivational goals mediated the relationships between these emotions and coping.

Positive Emotions

Beginning with the benefit-related emotions, Study 1 supported the hypothesized appraisal pattern of joy, with the appraisal of goal attainment as the key appraisal implicated in experiences of joy. Joy then predicted wanting to sustain and also savor the situation at hand, as well as using savoring and sustaining as coping strategies. The effect of joy on the use of these

coping strategies was mediated by these motivational goals. The perception that what is desired has been obtained matches the desire to savor and sustain the present situation. Thus, Study 1 supported my original predictions for the appraisal, motivational, and coping patterns of joy, and also demonstrated the coherence between these patterns.

Experiences of awe were predicted by appraisals of motivational congruence, other-accountability and vastness, but not the appraisal of the involvement of the unknown as originally hypothesized. These findings support the notion that awe is pleasant and involves the perception of being small (Shiota et al., 2007; Tong, 2015), thus giving rise to the appraisal of vastness. Awe prompted a decrease in taking accountability as a strategy for coping, perhaps representing the surrender of one's individual significance in the grand scheme of the universe in light of the appraisals of vastness and other-accountability. Future research should continue to investigate how individuals cope with awe, as Study 1 failed to identify other coping strategies that are likely employed during such emotional experiences.

The appraisal pattern of tranquility included motivational congruence and the lack of urgency as expected. Strangely, though tranquility predicted wanting to savor, tranquility did not predict the actual use of savoring. Nonetheless, tranquility predicted a decrease in the use of rumination (i.e., cognitive focus), and the motivational goal of savoring mediated the negative effect of tranquility on the use of this coping strategy. Notably, tranquility was the only positive emotion associated with cognitive focus, albeit negatively. The patterns of appraisal and motivation corresponding with tranquility support my original hypotheses, and though the finding for rumination was not predicted, the decreased use of this coping strategy matches the general theme of tranquility—during experiences of tranquility, there is nothing that the

individual urgently needs to attend to because all is well; thus, attention and cognition do not need to be directed towards any stimulus or situation.

Appraisals of congruence, goal attainment, and urgency were the key appraisals that predicted experiences of relief. However, contrary to Tong (2015), the appraisal of other-accountability did not predict relief; rather, self-accountability was implicated with experiences of relief. In Study 1, appraisals of other- and self-accountability were negatively correlated (Table 4) as would be expected, but pride and relief also shared a medium positive correlation (Table 5). Thus, in Study 1, relief may have tended to co-occur with experiences of pride, explaining the surprising relationship between self-accountability and relief. In addition to this puzzling finding, relief failed to significantly predict any of the motivational goals or coping strategies in Study 1. Future research should further study the role of accountability in experiences of relief as well as attempt to uncover how relief prompts motivation and coping.

Compared to the other positive emotions, the appraisal of expectation congruence was the key appraisal of amusement, as this appraisal did not predict the experience of any other emotion. In turn, amusement predicted wanting to savor and the use of savoring to cope, along with various other coping strategies; the motivational goal of savoring mediated these effects of amusement on coping. Interestingly, the appraisal of motivational relevance was not implicated in experiences of amusement. Of the positive emotions hypothesized to correspond with motivational relevance, amusement was the only one that was not significantly predicted by appraisals of relevance, suggesting that we may feel amusement in response to situations that are not necessarily relevant to our immediate goals. Future research should further investigate the role of relevance in the experiences of these emotions, and emotion theorists should consider

how emotions might be experienced in situations that are not appraised as motivationally relevant.

The appraisal pattern of pride generally matched my original hypotheses, with appraisals of self-accountability and positive evaluation differentiating experiences of pride from the other positive emotions. Based on Tong (2015), the appraisal of goal attainment was hypothesized to correspond with pride; however, Study 1 did not support this prediction. Thus, pride was differentiated from joy and the other positive emotions by self-accountability; though relief also involved self-accountability, pride was distinguished from relief by the appraisal of positive evaluation by others. In terms of motivation and coping, pride predicted the desire to recognize oneself, and this motivational goal mediated the effect of pride on taking accountability. With regard to coping, pride and awe were opposites in the sense that pride increased the use of taking accountability, whereas awe decreased taking accountability. Taken together, the perception of positive evaluation by others and being responsible for the situation at hand is congruent with the desire to recognize oneself and ultimately take accountability when experiencing pride; these patterns of appraisal, motivation, and coping organize around the theme of self-recognition.

Compared to the other positive emotions, three of the positive emotions—gratitude, affection, and compassion— were particularly social in the sense that these emotional experiences involved or were directed towards another person. The appraisal pattern of gratitude involved motivational relevance, congruence, and vastness. Contrary to Tong (2015), other-accountability and goal attainment did not correspond with gratitude. One might suspect that other-accountability and vastness could be correlated because both appraisals involve extending beyond the self; however, these appraisals were uncorrelated in Study 1 (Table 4). The appraisal of other-accountability was hypothesized to predict experiences of anger and gratitude, yet this

was not the case for either emotion in Study 1. In terms of motivation, gratitude prompted the desire to recognize another person as expected. However, experiences of gratitude did not predict the use of any specific coping strategies in Study 1. Future research should investigate if other-accountability is a necessary appraisal in experiences of anger and gratitude, and also identify the coping strategies associated with gratitude.

Affection was predicted by appraisals of motivational relevance and congruence, but not other-accountability as expected based on Tong's (2015) findings for romantic love. Thus, Study 1 failed to distinguish affection from the other positive emotions using appraisal components. However, affection predicted wanting to be close to others and the use of helping; these patterns of motivation and coping differentiated affection from all other positive emotions except compassion, which also prompted these motivational goals and coping strategies. Though Study 1 distinguished affection on the basis of motivational and coping patterns, future research should expand on these novel findings by identifying the appraisal pattern of affection that further differentiates this emotional experience from other positive emotions.

As with affection, Study 1 did not detect the key appraisals that differentiated compassion from the other positive emotions. The appraisal pattern of compassion involved motivational relevance and congruence, but not the appraisal of the lack of acceptability, as originally hypothesized. The appraisal of acceptability may not have predicted compassion in Study 1 because this appraisal item was not worded in a way that was specific to the situation; in other words, participants may have interpreted this item in a variety of ways, such as acceptability regarding the person involved in the situation versus the acceptability of the situation itself. Future research should clarify what is meant by social acceptability, and perhaps include multiple items measuring this appraisal construct. In terms of motivation and coping, compassion

predicted the motivational goals of helping, being close, making amends, and recognizing another person as well as the coping strategies of seeking information and trying to understand the situation at hand. Thus, compassion extends beyond affection in that it prompts wanting to help and to make amends, not just being close to and recognizing another person. Furthermore, these motivational goals mediated the effects of compassion on the use of helping, information seeking, and understanding to cope. As discussed in Smith et al. (2014), compassion is not a well-understood emotion, and though Study 1 improved our understanding by identifying the motivational pattern of compassion, much future research is required to fully understand the appraisal structure of compassion as well as the coping strategies used to regulate this emotion.

Transitioning from the benefit-related to the opportunity-related positive emotions, the appraisal pattern of interest included appraisals of motivational relevance, thereby supporting my original hypotheses. In addition, appraisals of motivational congruence and positive evaluation by others also predicted experiences of interest. Future research should attempt to replicate this finding, as Study 1 is the first to suggest this social aspect of interest. With regard to motivation and coping, interest predicted the motivational goal of seeking information and actually seeking information. This motivational goal fully mediated the effect of interest on information seeking, thereby underlining the coherence between emotion, motivation, and coping.

In contrast to interest, the appraisal of problem-focused coping potential distinguished determination from the other positive emotions, though this effect was only marginally significant. Contrary to my original hypothesis, the appraisal of high future expectancy failed to predict experiences of determination, potentially due to collinearity with problem-focused coping potential (Table 4). Regardless, determination predicted wanting to persevere, and this motivational goal mediated the relationships between determination and the use of several

coping strategies—active coping, perseverance, planning, and self-encouragement. Of all the positive emotions, determination prompted the widest variety of coping strategies, and all of these strategies could be characterized as engagement-related strategies intended to sustain effort. Thus, the appraisal, motivation, and coping patterns of determination were organized around the core relational theme of effortful optimism (Smith, Haynes, Lazarus, & Pope, 1993).

Finally, appraisals of high future expectancy and the involvement of the unknown differentiated hope from the other positive emotions in Study 1, especially determination. Moreover, hope prompted the motivational goal of having a desired outcome happen, rather than wanting to persevere in response to experiences of determination. In terms of coping, hope predicted a decrease in the use of wishful thinking, which is perplexing in light of its motivational goal of having a desired outcome happen; one would expect hope to prompt the use of wishful thinking to cope as a means of fulfilling the goal of having a desired outcome happen. Nonetheless, though hope was associated with a decrease in wishful thinking, experiences of hope did not prompt the use of engagement-related strategies, as observed with determination. Future research should manipulate the appraisals associated with determination and hope, respectively, and then observe the effects of these manipulations to compare the behavioral outputs of these two positive emotions.

Concluding Remarks

Study 1 demonstrates the importance of emotion differentiation and adds to the growing body of literature on how cognitive appraisals can differentiate among positive emotions. Additionally, to the best of my knowledge, Study 1 is the first empirical examination of how distinct negative and positive emotions influence motivational goals and the coping strategies

enacted during these emotional experiences. The comparison of motivational behaviors that follow from discrete emotional experiences is a productive avenue for future research on positive emotion differentiation, as there has been a lack of specificity in terms of answering what exactly each unique positive emotion motivates us to do. In spite of these critical contributions, Study 1 had at least two central limitations that future research should improve upon.

First, Study 1 relied entirely on self-report survey data, which is known to have its limitations (Parkinson & Manstead, 1993). However, I asked participants to reflect on an actual emotional experience without naming any particular emotion; rather, participants wrote about a type of situation that involved something bad or good either happening (i.e., harm and benefit) or having the potential to happen (i.e., threat and opportunity). Thus, Study 1 avoided prompting stereotyped descriptions of prototypical emotional experiences by instructing participants to write about an emotionally ambiguous situation, rather than a specific emotion. Nonetheless, in future empirical studies, researchers would benefit by focusing on a subset of the emotions included in Study 1 and using experimental manipulations to test the appraisal, motivational, and coping patterns associated with specific emotions.

Second, the coping measure used in Study 1 did not capture behaviors that may have been prompted by the hypothesized motivational goals of the negative emotions. The coping measure was largely modified from the COPE (Carver et al., 1989), which was originally created to measure how people cope with stress, to address the strategies that might stem from the hypothesized motivational goals of the positive emotions. I assumed that the coping strategies used to cope with negative emotions were well represented in the original COPE. Thus, I focused on modifying and expanding the COPE so that it would be more representative of coping behaviors that might occur in response to positive emotions. When brainstorming the coping

strategies that might correspond with the positive emotions, I used their hypothesized motivational structure to come up with potential coping strategies. In this way, I ended up creating a coping measure that was more closely linked to the motivational goals associated with the positive emotions, and therefore, I demonstrated more coherence between motivation and coping for the positive emotions than the negative emotions. In spite of this limitation, Study 1 still uncovered the coherence between appraisal, motivation, and coping for the majority of the negative emotions as well as the positive emotions. Nonetheless, future research should improve upon this coping measure by drawing upon emotion theory to identify behavioral responses associated with various negative emotions, such as attack and escape (Roseman, 2013), that the modified COPE used in this dissertation did not adequately capture.

In conclusion, Study 1 used a survey design to observe similarities and differences in the appraisal, motivational, and coping patterns of 8 negative emotions and 12 positive emotions, thereby providing a critical foundation for future research to build upon. The coherence from appraisal to emotion, emotion to motivation, and motivation to coping is elegant and remarkable. Future research should expand on Study 1 by using other research designs and experimentally manipulating emotional experience to observe how coping is affected. Moving forward, I hope that emotion researchers continue to differentiate among various negative and positive emotions while studying emotion as a process, from initial elicitation to coping and regulation.

CHAPTER III

STUDY 2

The goal of Study 2 was to examine how appraisals influence emotional experience and coping behavior using an experimental manipulation in a controlled laboratory setting, because previous research has failed to adequately clarify how manipulating appraisal affects coping. Expectations about an upcoming task's difficulty were manipulated with the purpose of manipulating appraisals of problem-focused coping potential (Smith & Kirby, 2009). Participants were tasked with learning how to juggle in 30 minutes; this learning task was intended to induce stress and negative emotions such as anxiety and resignation. Thus, Study 2 was designed to test how appraisals of problem-focused coping potential affected emotion and coping during a difficult learning task.

Method

Participants

Data was collected from 60 undergraduate students (70.00% female) who ranged in age from 18 to 22 years old (M = 19.47, SD = 1.20) recruited using the Sona Psychology Research Sign-Up system at Vanderbilt University. Due to the nature of the task used in Study 2, all participants were screened on their ability to juggle; only participants who could not juggle (i.e., throw and catch two balls in a row) were permitted to participate. The Vanderbilt University Institutional Review Board approved Study 2.

Procedure

During consent, the experimenter used a cover story to distract participants from the true purpose of the study. The experimenter claimed that the purpose of the study was to pilot a task to be used later in the semester for a study on independent learning and the different ways in which students learn without direct instruction or supervision. The experimenter explained how the graduate student in charge of the study was trying to find a task that involved learning something that would be novel to most people, and currently, the task to pilot was juggling.

Experimental Manipulation. Appraisals of problem-focused coping potential were manipulated by setting different anchoring points for expectations of task difficulty. Based on previous research, task difficulty is an antecedent of the appraisal of problem-focused coping potential (Smith & Kirby, 2009), so manipulating beliefs about difficulty should manipulate appraisals of problem-focused coping potential and the experience of challenge/determination rather than resignation. Moreover, the literatures on anchoring and self-efficacy have shown the effectiveness of using different anchoring points to manipulate judgments (Cervone & Peake, 1986; Tversky & Kahneman, 1974). Thus, the *Easy* group was given the expectation that the task would be relatively easy, and told that about 80% of undergraduates so far have been able to learn how to juggle during the session. Furthermore, to increase the stakes associated with the task, the *Easy* group was informed that preliminary results indicated that this ability was correlated with academic performance. In contrast, the *Difficult* group was told that only about 20% of undergraduates so far had been able to learn how to juggle during the session, and that this ability was not linked to academic performance or any other psychological constructs of interest. Thus, the *Easy* condition was intended to produce higher appraisals of problem-focused coping potential, whereas the *Difficult* group was intended to prompt relatively lower appraisals

of coping potential. After the experimental manipulation, successful learning was defined to all participants as being able to throw and catch at least three balls in a row.

The experimenter explained the task to the participant; in particular, the participant would spend 30 minutes alone learning how to juggle. During this time, the participant could do whatever he or she wanted. Participants had access to three balls for juggling as well as various resources for learning how to juggle. Participants could view a three-minute instructional video on juggling taken from YouTube, or read a tip sheet that goes over additional things to think about when learning how to juggle (Appendix C). Importantly, participants were explicitly told that they should not feel obligated to use these resources; rather, the experimenter underlined to participants that they could do whatever worked best for them, which made sense in light of the cover story. In other words, participants believed that the study was about the various methods through which students learn without explicit instruction or direct supervision. Finally, the experimenter explained to the participant that, after the learning task, the experimenter would return and assess performance by observing his or her juggling ability across three trials. In these trials, the experimenter would count how many balls the participant could throw and catch.

The experimenter was in the hallway during the learning task, such that there was a room between the room that the experimenter was in and the room that the participant was in. The participant watched the experimenter walk through the room next door and could hear the experimenter close the door as she exited the lab. This detail in the experimental design was to create the visage of privacy. However, a hidden video camera was recording what the participant was doing during the entirety of the lab session. This video data allowed for the observation of the participants' actual behaviors during the task such that this behavior could be coded and assessed.

Before and after the learning task, participants were also asked to fill out a survey about their thoughts and reactions throughout the lab session. These surveys included questionnaires on appraisal, emotion, and motivation. A questionnaire on coping was only included in the second survey that followed the task.

After completion of the post-task survey, the same experimenter, who was aware of what condition the participant was in, assessed the participant's mastery of juggling. There were three trials, and in each trial, the experimenter observed how well the participant could juggle the ball based on how many times the participant could catch the ball before dropping one or stopping the juggling sequence. Following the performance evaluation, the lab session was complete, and the participant was debriefed on the true purpose of the study. Participants were given the option of dropping out of the study partially (i.e., omitting the video data) or completely (i.e., omitting the survey and the video data), but all participants gave permission to use their self-report data and video footage in the data analyses.

Measures

Pre-Learning Questionnaires. Prior to the task, participants completed a survey that included questionnaires of appraisals, emotions, and motivational goals. Appraisals were assessed using a questionnaire that was almost identical to the one used in Study 1 (Table 2); the main modification was that the verb tense was changed from past to present on all items to reflect the prospective nature of Study 2 (Appendix D). Thus, the appraisal questionnaire included 15 items that measured 15 appraisal variables. In Study 2, I focused on appraisals of problem-focused coping potential and future expectancy.

A modified version of the FEEL (Kirby et al., 2016; Table 3) measured emotional experience, with modified instructions that framed responses in the context of the upcoming learning task as follows: "Below are a number of clusters of adjectives that describe different emotions or feelings. Each group of adjectives is meant to get at a **single** basic feeling or emotion. Please indicate the extent to which each cluster of adjectives characterizes the way you feel right now. Please use the 9-point scale depicted below. Indicate your ratings by writing the appropriate number (1 to 9) for **each** cluster of adjectives." The present analyses focused on the emotion variables of anxiety, determination, hope, interest, and sadness/resignation. As in Study 1, the original sadness and resignation items were combined to create new pre- and post-task sadness/resignation variables for the final analyses. It is unclear why these new variables had low reliability (both αs < .47), as the correlations between emotion variables at each respective time point were moderate in strength (both *r*s > .26; both *p*s < .043). For consistency across studies, I kept the combined sadness/resignation variable in my final analyses, but notably, the same results were derived when using the separate sadness and resignation items in the emotion analyses.

Motivational goals were measured using a modified version of the questionnaire from Study 1 that reflects the present tense (Appendix E). This questionnaire included 20 motivational goal variables, though the present analyses did not examine these variables.

Post-Learning Questionnaires. After the learning task, participants reflected on their thoughts and behavior during the task by completing a survey of appraisals, emotions, motivational goals, and coping behaviors. To measure appraisals, the same appraisal questionnaire from Study 1 (Table 2) was administered, except that the instructions were modified as follows: "Now we would like to ask you some questions about your thoughts and

feelings during the task. Please use the nine-point scale depicted for each item. Indicate your ratings by selecting the appropriate number (1 to 9)."

The emotion questionnaire from Study 1 (Table 3) was also used, with the key modification to the instructions as follows: "Please indicate the extent to which each cluster of adjectives characterizes the way you felt during the task."

The motivational goal questionnaire from Study 1 (Appendix A) was also used in Study 2, except that the instructions were modified as follows: "We are interested in how you **wanted** to respond during the task. Each statement describes something you might have felt like doing. For each, please indicate the extent to which you wanted to do this thing."

Finally, coping behaviors were assessed using a 50-item questionnaire that measured the use of 21 coping strategies (Appendix F). Though 17 of these coping strategies were derived from the coping questionnaire used in Study 1 (Appendix B), four additional strategies were included: distraction, referring to how much the participant tried to divert his or her attention to something other than the task at hand; emotional focus, or concentrating on how one felt; problem-focused coping, which represented how much the participant used the available materials (i.e., the balls, tip sheet, and video) to try to learn how to juggle; and stoicism, or masking one's emotions from others.

Various personality measures were also collected to test if global beliefs or traits interacted with the manipulation effect to influence appraisal, emotion, and coping. In particular, the 8-item Short Grit Scale (Duckworth & Quinn, 2009), the 10-item Life Orientation Test-Revised (Carver & Bridges, 1994), the 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965), and 4 items on athletic competency as adapted from the subscale in the Self-Perception Profile

for College Students (Neemann & Harter, 1986). See Appendix G for all personality measures used in Study 2.

Behavioral Coding. After the completion of each experimental session, two coders (all *ICC*s > .70) separately viewed video footage of the session and evaluated behavior during the task using a novel questionnaire specifically designed for Study 2. This questionnaire involved ten variables intended to reflect task engagement (Table 18). The coders rated each of these items on a Likert scale (*1* = Not at all and *9* = Very much so). There were ten additional variables in the original behavioral coding questionnaire, but they were not ultimately analyzed due to poor interrater reliability (i.e., *ICC* < .70).

Table 18. Behavioral coding items.

VARIABLE	ITEMS
Number of tosses	How many tosses (i.e., 2 balls) does the participant make?
Number of exchanges	How many exchanges (i.e., 3 balls) does the participant make?
Time spent sitting	How much time does the participant spend sitting?
Participant seriousness	How seriously does the participant appear to be taking the task?
Participant boredom	How bored does the participant seem?
Participant laziness	How lazy does the participant seem?
Use of learning aids	How much does the participant use the learning aids (e.g., video or tip sheet)?
Effort	How much does the participant exert effort throughout this task?
Negative self-talk	How much does the participant say negative things out loud to himself or herself?
Giving up	How much does the participant appear to give up on the task?

Hypotheses

First, I hypothesized that, as a result of the manipulation, the *Easy* group would have higher appraisals of problem-focused coping potential and future expectancy compared to the *Difficult* group (Hypothesis 1).

The next two hypotheses dealt with emotional responding. I hypothesized that the *Easy* group would experience more positive emotions—determination, hope, and interest—compared to the *Difficult* group (Hypothesis 2). In contrast, I hypothesized that the *Difficult* group would experience more negative emotions, notably anxiety and sadness/resignation, compared to the *Easy* group (Hypothesis 3).

Based on the theorized motivational properties of determination (Kirby et al., 2014) and interest (Silvia, 2008; Sung & Yih, 2015), I hypothesized that the *Easy* group would use more active engagement coping (e.g., taking action to cope with the situation at hand), information seeking, perseverance, planning, problem-focused coping (e.g., using the materials provided to address the situation), self-encouragement, and understanding during the task compared to the *Difficult* group (Hypothesis 4). These behaviors were measured using the coping behavior items as well as behavioral observation (i.e., coded behavior items). In contrast, I hypothesized that the *Difficult* group would use more disengagement, distraction, and minimization of goals compared to the *Easy* group (Hypothesis 5*)*.

Analyses

A series of *t*-tests were used to test effects of condition on pre-task appraisals (Hypothesis 1). Then, ANOVAs were used to test for main and interaction effects of condition and the various personality measures on pre-task appraisals and emotion. Specifically, separate

ANOVAs were conducted to see if condition interacted with grit, optimism, perceived athleticism, or self-esteem to impact pre-task appraisals and emotion. Each personality variable was used as a continuous measure using a regression approach to ANOVA. Any personality trait that significantly interacted with condition was then included as an additional independent variable in all subsequent analyses.

With regard to testing the primary hypotheses, ANOVAs were used to assess the effect of condition on appraisals, emotional experience, and the use of coping behaviors (Hypotheses 2, 3, 4, and 5). Each dependent variable of interest was analyzed in a separate ANOVA to test the effect of condition on that particular variable.

Self-report data was complete for all participants, but video data was missing for four participants due to malfunctions with the video recorder. Thus, the data from these four participants were missing from the behavioral coding analyses.

Results

Manipulation Checks

I originally hypothesized that, as a result of the manipulation, the *Easy* group would have enhanced appraisals of problem-focused coping potential and future expectancy compared to the *Difficult* group (Hypothesis 1). As expected, there was a significant difference in appraisals of problem-focused coping potential between conditions following the manipulation and before the beginning of the learning task ($t(58) = 2.21$, $p = .031$) with participants from the *Easy* group providing higher ratings of problem-focused coping potential than the *Difficult* group (Figure 1). The manipulation had only a marginally significant effect on appraisals of future expectancy

($t(58) = 1.69$, $p = .096$), with participants from the *Easy* group providing higher ratings of future expectancy than the *Difficult* group as expected. In spite of this finding being only marginally significant, the manipulation largely behaved as intended because I was primarily interested in manipulating the appraisal of problem-focused coping potential.

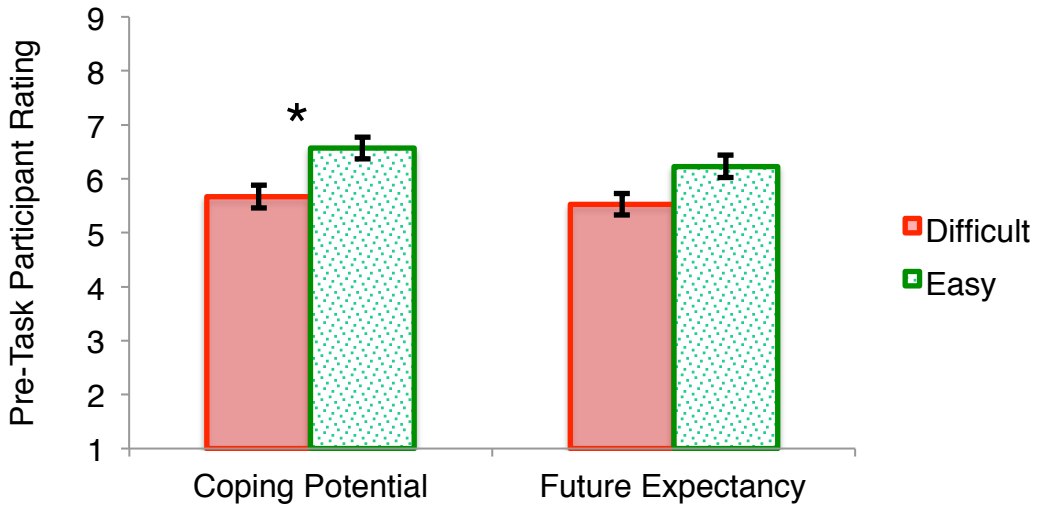


Figure 1. Manipulation check of the effect of condition on pre-task appraisals. There was a significant effect of condition on problem-focused coping potential, and a marginally significant effect on future expectancy. The asterisk indicates significance (* $p < .05$). Error bars represent the standard errors.

Next, I tested any potential main or interaction effects of the global personality measures. Ratings of optimism had a significant effect on the appraisal ratings of future expectancy about the task ($F(1, 56) = 5.08$, $p = .028$, $\eta^2 = .078$), with more optimistic participants providing higher ratings of future expectancy regarding the upcoming task ($\beta = .14$); this finding makes sense as positive expectations about the future is a central aspect of optimism. In addition, ratings of self-esteem had a marginally significant effect on future expectancy ($F(1, 56) = 3.15$, $p = .081$, $\eta^2 = .051$); participants with enhanced self-esteem provided higher ratings of future expectancy ($\beta =$

.20). Aside from these findings, there were no significant main effects of grit, optimism, or self-esteem on appraisals of problem-focused coping potential or future expectancy (all *p*s > .15), nor were there any significant interaction effects of these personality variables with condition (all *p*s > .51).

Unlike the other personality measures, perceived athletic competence had a significant effect on the appraisal of problem-focused coping potential, which was the central appraisal of interest with regard to the experimental manipulation. In separate analyses, perceived athletic competence influenced the appraisal of problem-focused coping potential ($F(1, 56) = 4.18$, $p = .046$, $\eta^2 = .060$) as well as the appraisal of future expectancy ($F(1, 56) = 5.84$, $p = .019$, $\eta^2 = .086$). Specifically, participants with higher athletic competence provided higher ratings of problem-focused coping potential ($\beta = .016$) and future expectancy ($\beta = .092$) just before starting the task. Moreover, perceived athletic competence interacted with condition to affect the appraisal of problem-focused coping potential prior to beginning the task ($F(1, 56) = 4.10$, $p = .048$, $\eta^2 = .059$; Figure 2). Participants with lower athletic competence were affected by the manipulation as expected, with participants in the *Difficult* group providing lower ratings of coping potential than participants in the *Easy* group ($t(56) = -2.69$, $p < .01$). Across both groups, participants with high perceived athletic competence did not significantly differ in their ratings of coping potential ($t(56) = 1.26$, $p = .21$).

Finally, there was also a marginally significant interaction effect of perceived athletic competence and condition on the appraisal of task-related future expectancy ($F(1, 56) = 3.08$, $p = .085$, $\eta^2 = .045$; Figure 3). As observed with the interaction effect on problem-focused coping potential, participants with low athletic competence in the *Difficult* group had lower ratings of future expectancy regarding the learning task compared to participants with low athletic

competence in the *Easy* group ($t(56) = -2.95$, $p = .026$), without a significant difference among the highly athletically competent participants ($t(56) = 1.14$, $p = .26$).

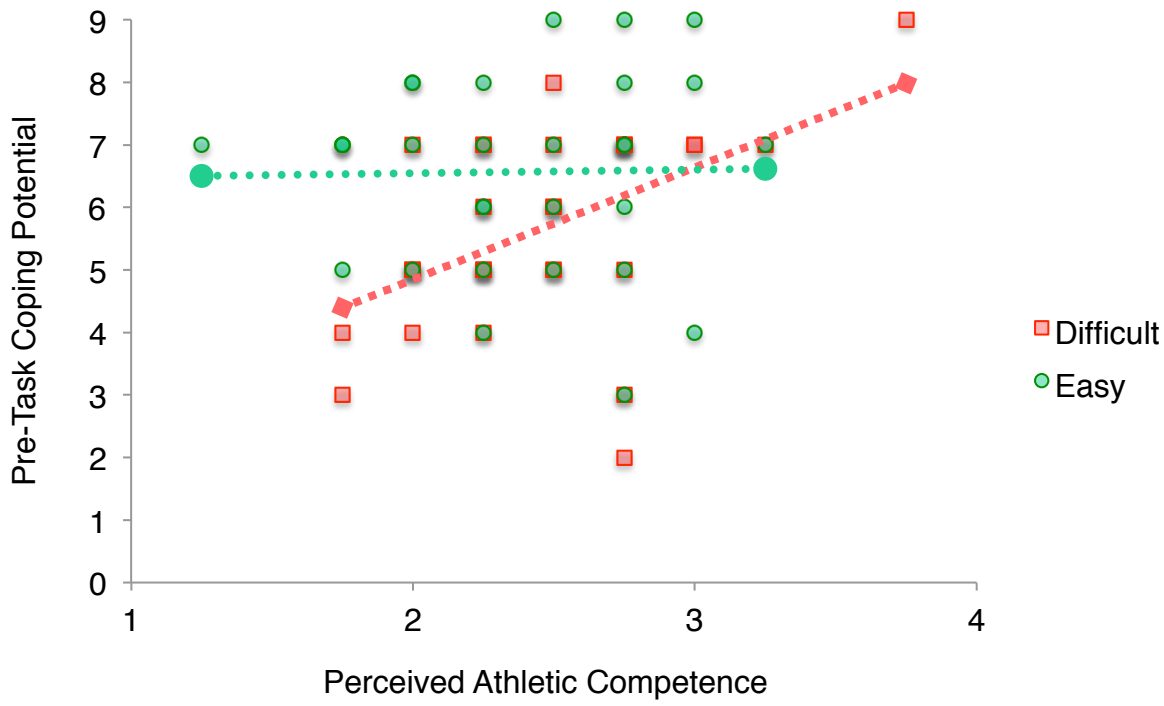


Figure 2. Effects of condition and athletic competence on the pre-task appraisal of problem-focused coping potential. Significant main effects of condition and perceived athletic competence on pre-task ratings of problem-focused coping potential were found, as well as an interaction effect between condition and perceived athletic competence. Notably, points may represent multiple, overlapping data points.

Thus, to acknowledge the potential for interactions between athletic competence and condition to influence the main analyses, perceived athletic competence was considered as an independent variable for the remaining analyses testing a priori hypotheses.

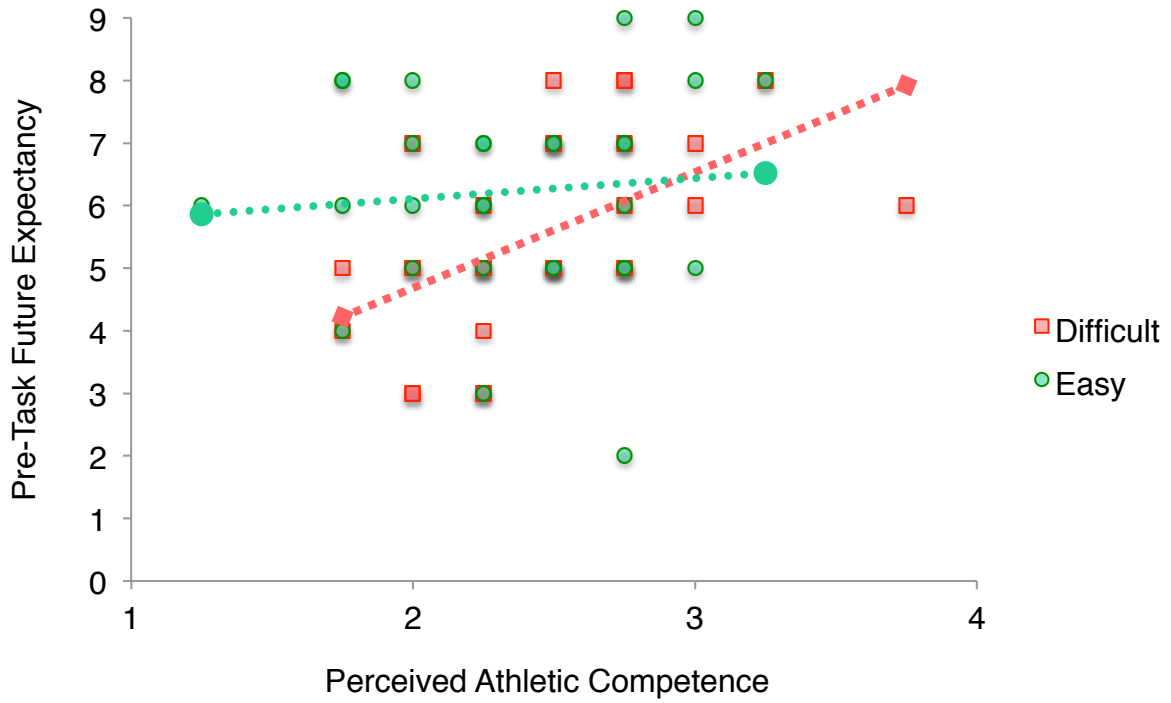


Figure 3. Effects of condition and athletic competence on the appraisal of pre-task future expectancy. A significant main effect of perceived athletic competence and a marginally significant of condition on pre-task ratings of problem-focused coping potential were found, as well as a marginally significant interaction effect between condition and perceived athletic competence. Notably, points may represent multiple, overlapping data points.

Hypothesis Testing

Pre-Task Emotional Experience. I originally hypothesized that the *Easy* group would experience more positive emotions (Hypothesis 2), whereas the *Difficult* group would experience more negative emotions (Hypothesis 3). Contrary to these hypotheses, there were no significant differences in emotion following the manipulation and prior to beginning the task. Specifically, participants in the *Easy* group and the *Difficult* group did not differ in their experiences of pre-task anxiety, determination, hope, interest, or sadness/resignation (all *p*s >.14; Figure 4). There

were also no interaction effects of condition and perceived athletic competence on pre-task emotional experience (all *p*s > .13).

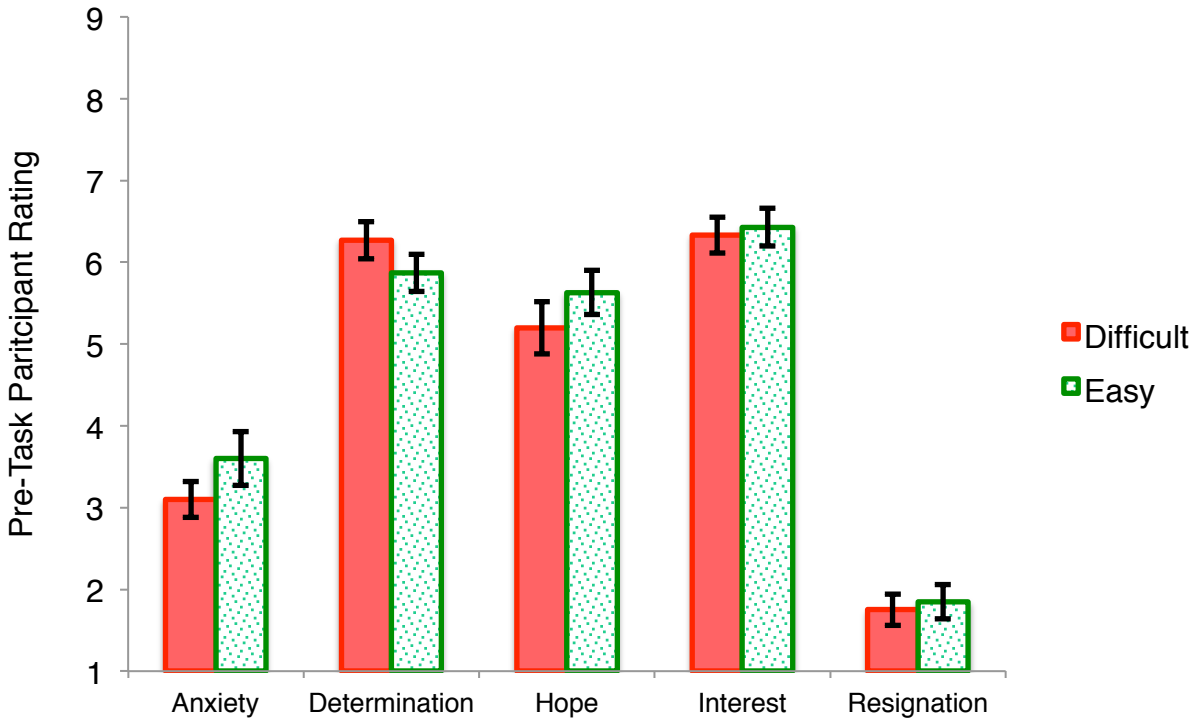


Figure 4. Effect of condition on pre-task emotional experience. There were no significant main effects of condition on negative emotions (anxiety and sadness/resignation) or positive emotions (determination, hope, and interest), including interaction effect with perceived athletic competence. Error bars represent the standard errors.

Appraisals During the Learning Task. Although the manipulation check demonstrated differences in pre-task appraisals between the *Easy* and *Difficult* groups, I was also interested in how appraisals of problem-focused coping potential and future expectancy changed with time. Thus, immediately after the learning task, participants reflected on their appraisals, emotions, motivational goals, and coping behaviors during the task. There were no longer significant effects of condition on appraisals of problem-focused coping potential and future expectancy

(Figure 5), nor were there interaction effects with perceived athletic competence (all *p*s > .15). However, there was a significant main effect of perceived athletic competence ($F(1, 56) = 8.35$, $p < .01$, $\eta^2 = .13$); specifically, participants with higher ratings of athletic competence provided higher ratings of problem-focused coping potential during the task than participants with lower ratings of athletic competence ($\beta = .36$).

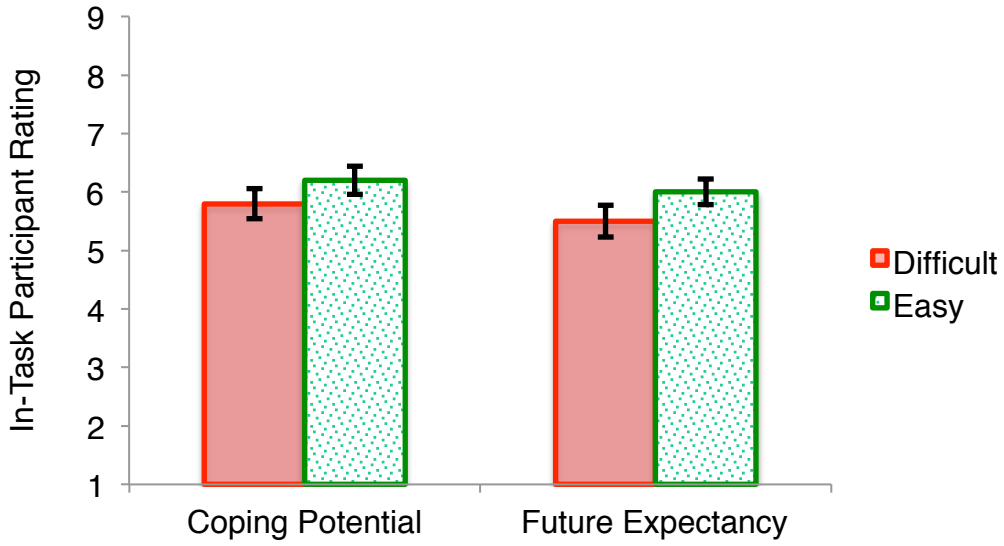


Figure 5. Appraisals during the task. There were no significant effects of condition on problem-focused coping potential or future expectancy, including interaction effect with perceived athletic competence. Error bars represent the standard errors.

Emotional Experience During the Learning Task. With regard to emotional experience during the task, I again hypothesized that the *Easy* group would experience more positive emotions and less negative emotions than the *Difficult* group (Hypotheses 2 and 3). Contrary to these hypotheses, there were no effects of condition on experiences of emotion during the task (all *p*s > .47; Figure 6). Nonetheless, congruent with the finding for appraisals of problem-focused coping potential during the task, participants with higher ratings of athletic competence

provided higher ratings of determination during the task ($F(1, 56) = 4.78$, $p = .033$, $\eta^2 = .079$; $\beta = .25$). In addition, participants with higher ratings of athletic competence also provided higher ratings of the experience of interest during the task than participants with lower ratings of athletic competence ($\beta = .31$), and this finding was marginally significant ($F(1, 56) = 3.51$, $p = .066$, $\eta^2 = .059$).

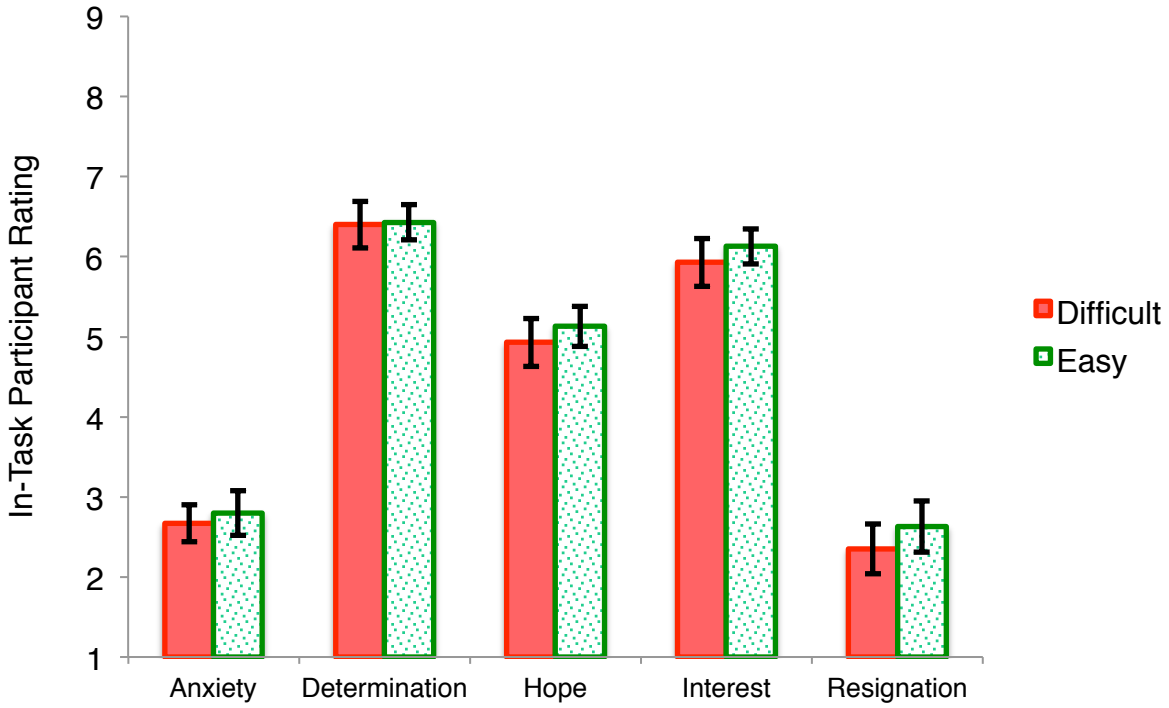


Figure 6. Emotional experience during the task. As with pre-task emotion, there were no significant effects of condition on negative emotions (anxiety and sadness/resignation) or positive emotions (determination, hope, and interest), including interaction effect with perceived athletic competence. Error bars represent the standard errors.

Coping Behavior During the Learning Task. I originally hypothesized that the *Easy* group would use more engagement-related coping during the task (Hypothesis 4), whereas the *Difficult* group would use more disengagement-related coping (Hypothesis 5). Although the data

did not support my hypotheses for differences in emotion between groups, the findings for coping mostly supported my original predictions and yielded three statistically significant interaction effects of condition and perceived athletic competence. First, there was an interaction effect on the use of active engagement coping ($F(1, 56) = 5.68$, $p = .021$, $\eta^2 = .088$; Figure 7). Within the *Easy* group, participants with higher perceived athletic competence endorsed using more active engagement coping during the learning task than participants with lower athletic competence ($t(56) = 2.54$, $p = .014$). In contrast, within the *Difficult* group, participants with higher perceived athletic competence reported using less active engagement coping than participants with lower athletic competence ($t(56) = -2.05$, $p = .045$). Notably, the main effects for condition and perceived athletic competence were not significant (both ps > .18).

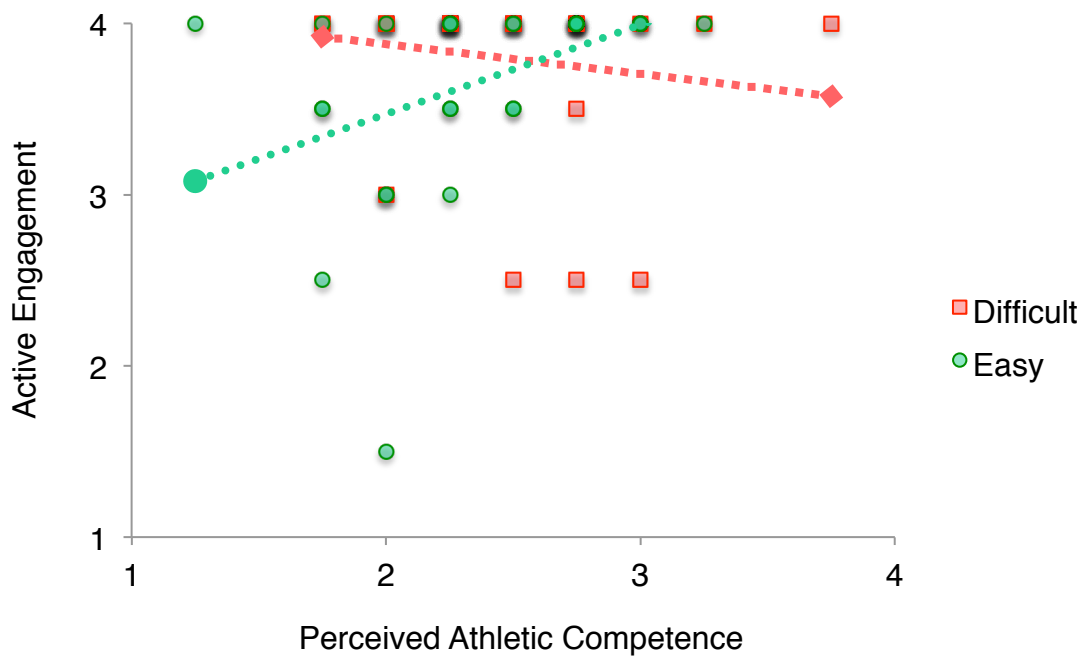


Figure 7. Effect of condition and athletic competence on active engagement coping. Although main effects of condition and perceived athletic competence were not supported by the data, a significant interaction effect between condition and perceived athletic competence was found. Notably, points may represent multiple, overlapping data points.

Second, there was a marginally significant interaction effect of condition and perceived athletic competence on the use of perseverance during the learning task ($F(1, 56) = 3.60$, $p = .063$, $\eta^2 = .059$; Figure 8). As with active engagement coping, less athletically competent participants in the *Difficult* group persevered more than their less athletically competent peers in the *Easy* group ($t(56) = 1.98$, $p = .053$). However, there was no difference between groups for the participants who rated themselves as high in athletic competence ($t(56) = -1.66$, $p = .10$).

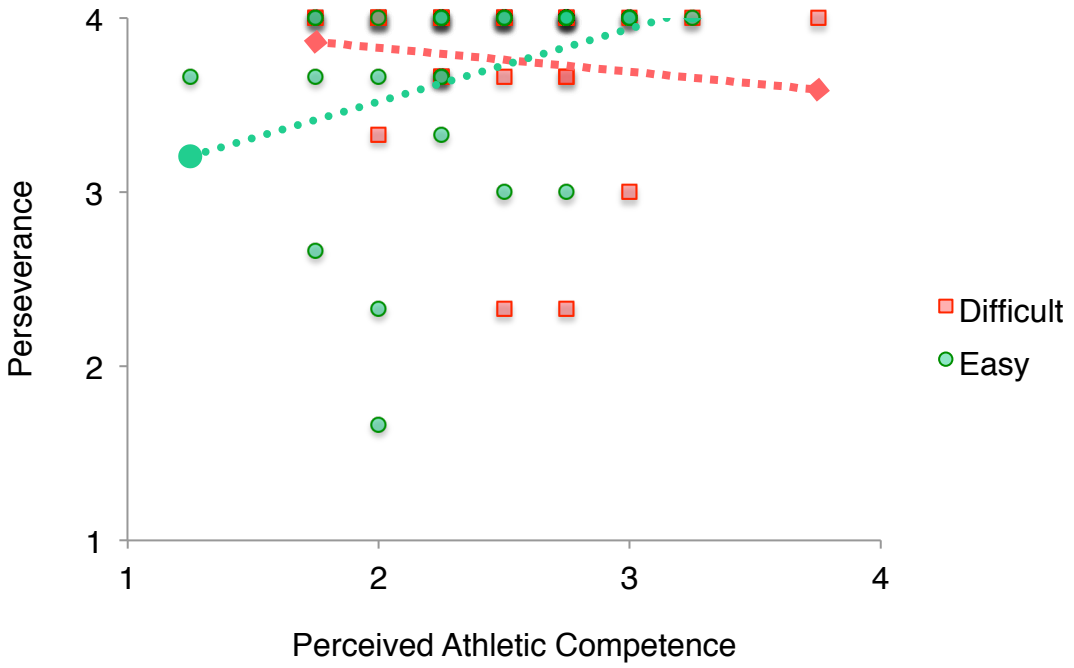


Figure 8. Effect of condition and athletic competence on perseverance. A marginally significant interaction effect between condition and perceived athletic competence was found, but neither the main effect of condition nor athletic competence was significant. Notably, points may represent multiple, overlapping data points.

Finally, there was also a significant interaction effect of condition and perceived athletic competence on trying to understand how to juggle as a means of coping ($F(1, 56) = 6.54$, $p =$

.013, η^2 = .090; Figure 9). There was also a main effect of athletic competence on the use of trying to understand ($F(1, 56) = 7.17$, $p < .01$, $\eta^2 = .099$; $\beta = .60$). Participants in the *Easy* group with higher perceptions of their own athletic competence reported trying to understand how to juggle more than their highly athletically competent peers in the *Difficult* group ($t(56) = 2.07$, $p = .043$). However, less athletically competent participants in the *Difficult* group tried to understand as a means of coping with the task of learning how to juggle to a greater extent than their less athletically competent peers in the *Easy* group ($t(56) = 2.86$, $p < .01$).

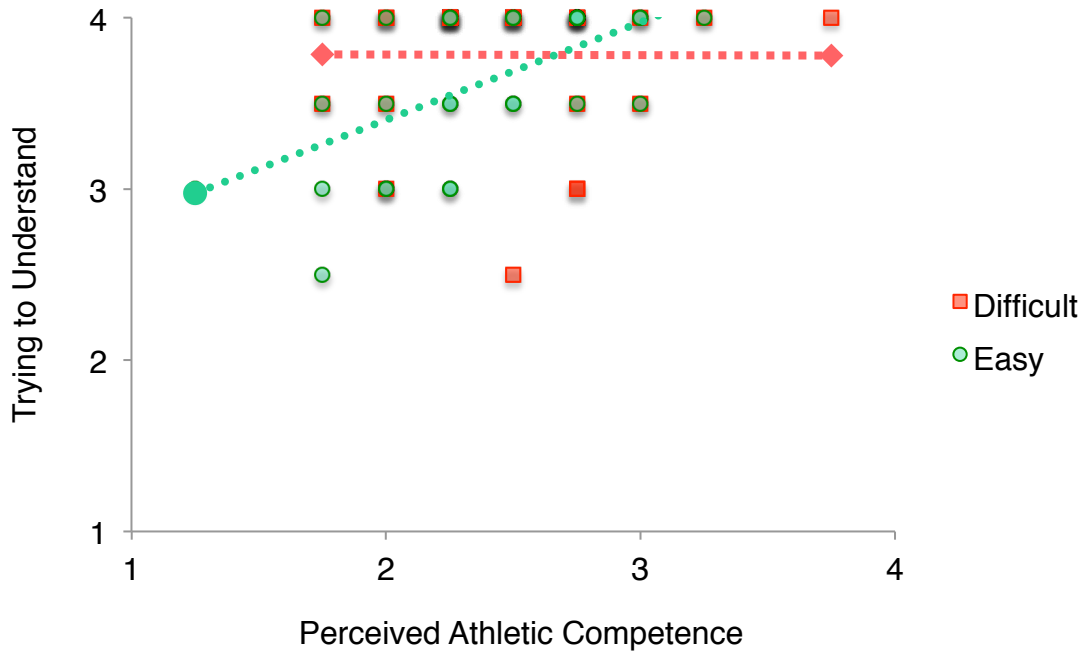


Figure 9. Effects of condition and athletic competence on trying to understand. A significant main effect of perceived athletic competence and a significant interaction effect between condition and perceived athletic competence were found, but the main effect of condition was not significant. Notably, points may represent multiple, overlapping data points.

In addition to these three interaction effects, there were also marginally significant main effects of condition on the use of information seeking ($F(1, 56) = 3.43$, $p = .063$, $\eta^2 = .059$) and

planning ($F(1, 56) = 2.87$, $p = .096$, $\eta^2 = .040$) during the learning task that contradicted my original predictions (Figure 10). The *Difficult* group unexpectedly endorsed using more information seeking behaviors to cope than the *Easy* group. Similarly, the *Difficult* group reported the use of planning to a greater extent than the *Easy* group. In combination, these marginally significant findings suggest that the *Difficult* group spent more time than the *Easy* group on finding information about juggling and learning how to juggle, and then on formulating a plan for learning how to juggle.

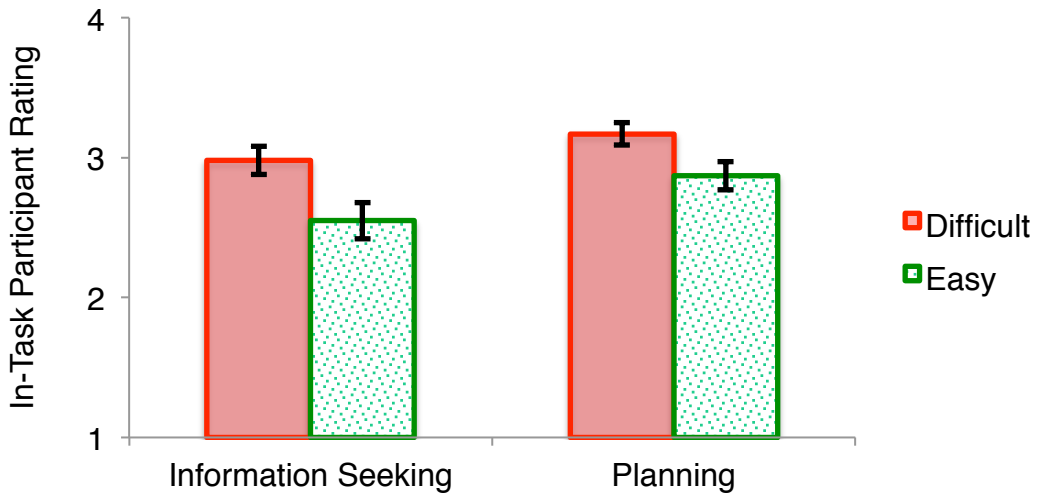


Figure 10. Marginally significant effects of condition on information seeking and planning. No significant interaction effect between condition and perceived athletic competence was found. Error bars represent the standard errors.

Finally, along with the three interaction effects and the two main effects of condition, there were main effects of perceived athletic competence on the use of problem-focused coping ($F(1, 56) = 3.39$, $p = .071$, $\eta^2 = .055$) and self-encouragement ($F(1, 56) = 9.70$, $p < .01$, $\eta^2 = .14$) during the learning task. Across both groups, participants with higher perceptions of their athletic

competence reported using more problem-focused coping (β = .38) and self-encouragement (β = .27) during the task. These findings are congruent with the finding that appraisals of problem-focused coping potential during the task varied based on perceptions of athletic competence, indicating a main effect of perceived athletic competence on both appraisals and the use of certain engagement-related coping behaviors.

Contrary to original hypotheses, there were no significant main or interaction effects of condition and perceived athletic competence on disengagement, distraction, or minimization (all *ps* > .13; Figure 11).

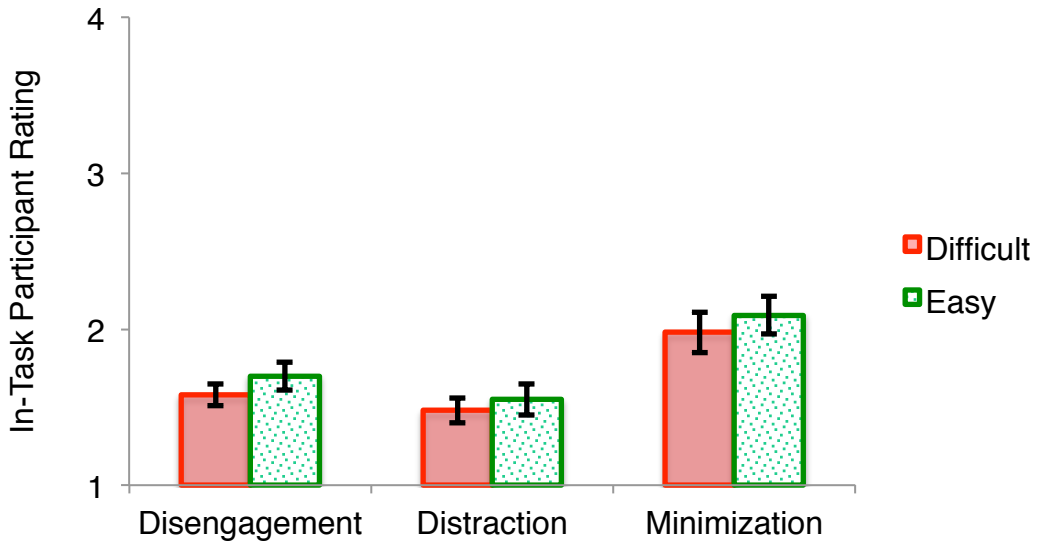


Figure 11. Disengagement-related coping during the task. There were no significant effects of condition on disengagement, distraction, or minimization, including interaction effect with perceived athletic competence. Error bars represent the standard errors.

Coded Behavior During the Learning Task. Based on coder ratings of behavior, participants in the *Difficult* group ($M = 3.53$, $SD = 1.84$) appeared to be lazier than participants in the *Easy* group ($M = 2.75$, $SD = 1.51$), though this finding was only marginally significant ($F(1,$

54) = 2.96, p = .064, η^2 = .055). Nevertheless, in accordance with the finding for laziness, there was a marginally significant interaction effect between condition and perceived athletic competence on the number of tosses (i.e., juggling two balls) completed during the learning task (F(1, 54) = 3.57, p = .064, η^2 = .059; Figure 12).

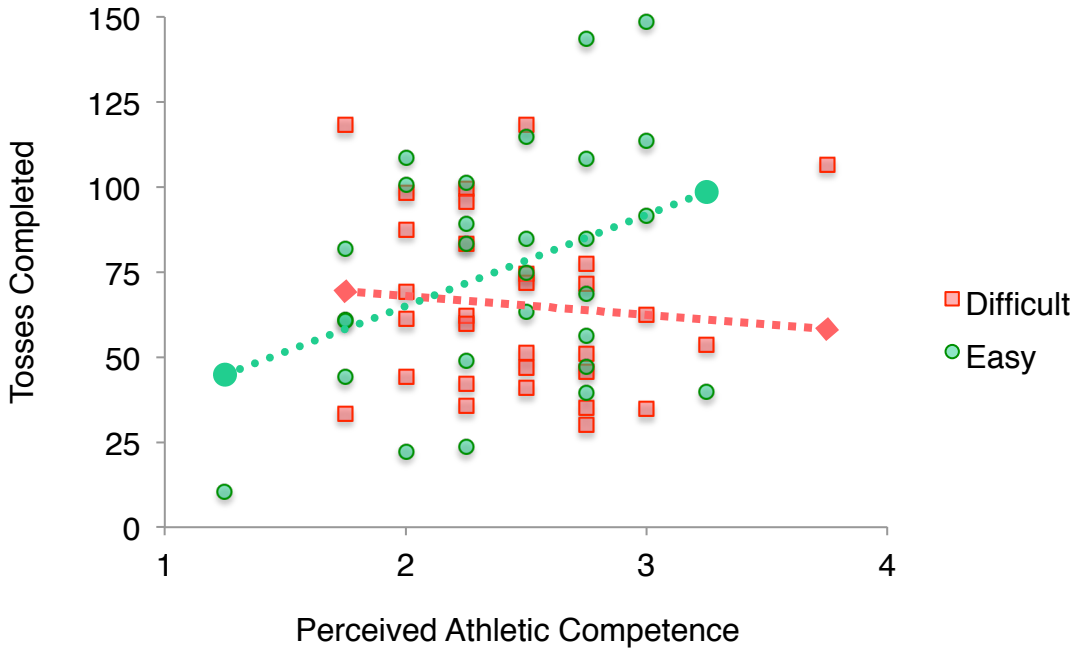


Figure 12. Effect of condition and athletic competence on the number of tosses completed during the task. A completed toss was defined as successfully juggling two balls. A significant interaction effect between condition and athletic competence was found, but the main effects of condition and perceived athletic competence were not significant. Notably, points may represent multiple, overlapping data points.

Participants with high perceived athletic competence in the *Easy* group completed more tosses than their highly athletically competent peers in the *Difficult* group (t(56) = 2.20, p = .032), without a statistically significant difference between groups for the less athletically competent participants (t(56) = 1.38, p = .17).

In spite of the findings for tosses completed, there were no significant main or interaction effects of condition and perceived athletic competence on the number of exchanges (i.e., juggling three balls) completed (all *p*s > .45; Figure 13).

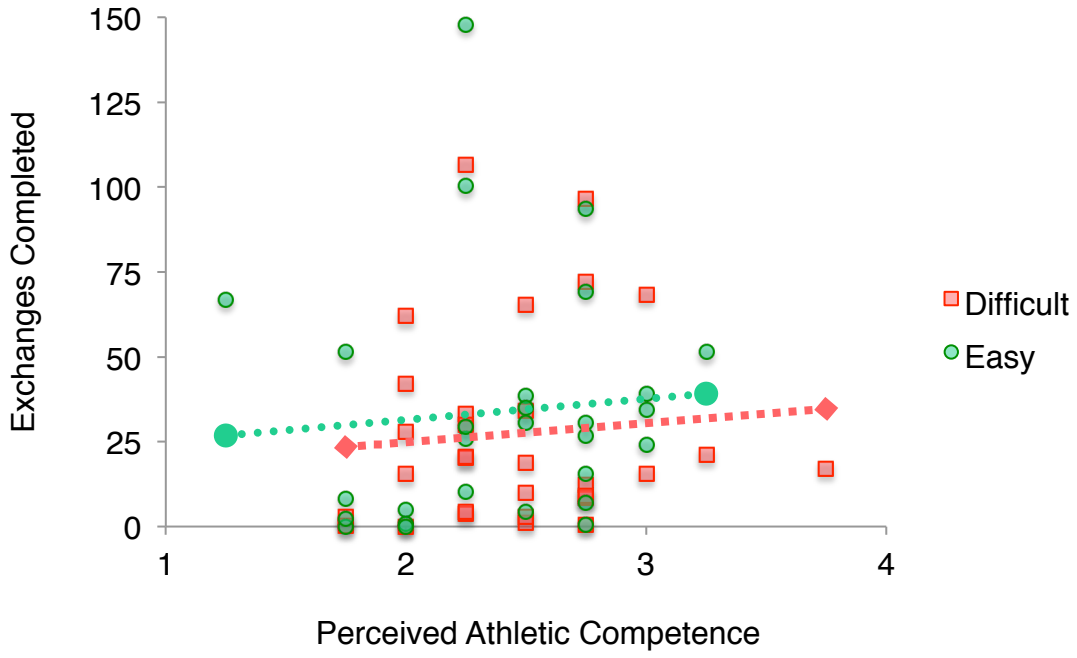


Figure 13. Number of exchanges completed during the task. A completed exchange was defined as successfully juggling three balls. There were no significant main or interaction effects of condition or athletic competence on exchanges. Notably, points may represent multiple, overlapping data points.

Importantly, tosses differ from exchanges based on the number of balls involved, and thus, tosses are much easier to complete and are likely an indicator of effort and attempts to practice, whereas exchanges are a marker of actual success at juggling. Therefore, in spite of observed differences in effort between participants based on condition and perceived athletic competence, there were no differences in performance as indicated by the number of exchanges completed during the task.

With regard to the remaining behaviors evaluated by coders, there were no other effects of condition. In other words, there were no observed differences between participants in how much coders rated them on: effort; giving up during the task; making negative verbal statements; sitting, rather than standing, during the task; and taking the task seriously (all *p*s > .12; Figure 14). Finally, there was no difference in how much time, in minutes, the *Difficult* ($M = 2.38$, $SD = 2.87$) versus the *Easy* ($M = 1.98$, $SD = 2.10$) groups spent sitting rather than standing.

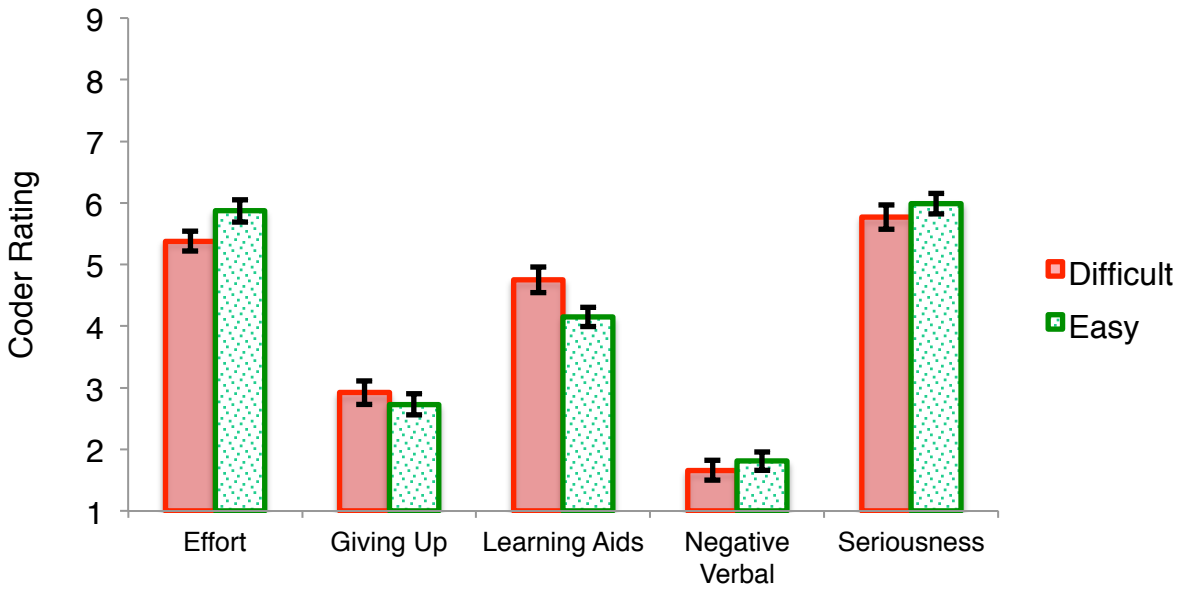


Figure 14. Coded behavior from the video data. There were no significant effects of condition (including interaction effects with perceived athletic competence) on effort, giving up, using learning aids, making negative verbal statements, and seriousness according to coder ratings. Error bars represent the standard errors.

Discussion

The aim of Study 2 was to observe the effects of manipulating appraisals of problem-focused coping potential and future expectancy on emotion and coping during a difficult task that involved trying to learn how to juggle. Specifically, participants were given different

expectations about how difficult it was to learn how to juggle (i.e., 20% of previous participants were able to learn in the *Difficult* condition versus 80% in the *Easy* condition) and then asked to try to learn how to juggle. In reality, virtually none of the participants in Study 2 were able to learn how to juggle in 30 minutes. I was interested in how the experimental manipulation would affect appraisal, emotion, and coping. Because the manipulation was found to significantly influence the appraisal of problem-focused coping potential but only marginally significantly affect future expectancy, the group effects were interpreted as primarily resulting from manipulating the appraisal of problem-focused coping potential.

Contrary to original hypotheses, I did not find support for relationships between appraisal and emotion. There are at least four possible explanations for why the experimental manipulation of appraisal did not impact emotional experience. First, though statistically reliable, the manipulation of problem-focused coping potential was small. Smith and Kirby (2009) previously demonstrated that large shifts in the appraisal of problem-focused coping potential did result in significant changes in both determination and resignation. In addition, it is unclear how the experimental manipulation may have impacted other appraisals. The appraisal of problem-focused coping potential is only one component (albeit a critical one) in the appraisal pattern of determination, which also involves motivational relevance and congruence. Although the manipulation was specifically designed to manipulate problem-focused coping potential, the manipulation may have unintentionally affected appraisals of relevance and congruence as well, due to the manipulation of stakes in each condition. However, post-hoc analyses indicated that the experimental manipulation did not have an effect on motivational relevance or congruence (both $ps > .56$). Future research should improve on Study 2's manipulation and also consider how the manipulation of one appraisal may impact other appraisals.

Second, Winkielman, Berridge, and Wilbarger (2005) have discussed the phenomenon of unconscious emotions and demonstrated how emotion can still influence behavior even if the emotion is not accessible to conscious awareness. Indeed, the findings on coping behavior from Study 2 suggest that manipulating appraisals of problem-focused coping potential did have an effect on how participants behaved and coped with the stressful task of learning how to juggle. Thus, differences in emotion may have been experienced at a subconscious level such that effects of emotion were observed, but participants failed to report the presence of these emotional experiences.

Third, the one-time retrospective survey of emotion during the task may not have sufficiently captured how emotion fluctuated throughout the course of the task. To allow participants to focus on the task at hand, no surveys were actually administered during the task, but rather after the task, which was 30 minutes long, had ended. Thus, the lack of group differences in emotion during the task may be biased in that they primarily represent how participants were feeling towards the end of the task. At this point, most participants had realized that they would not be able to successfully learn how to juggle, thereby rendering the appraisal and emotional profiles of the *Easy* versus the *Difficult* groups to be quite similar. Study 2 is unable to test either the second or third of these explanations for the lack of emotion findings, but future research should continue to investigate unconscious emotion and emotion as a process.

Finally, the restricted range of emotional experience may explain the lack of emotion findings. Participants in Study 2 were all Vanderbilt undergraduate students, and thus, these participants were likely quite motivated and oriented towards achieving success. As such, in spite of the manipulation, all participants may have felt similarly determined prior to beginning the difficult task. The coping results support this notion; across both conditions, participants

were using relatively high levels of engagement-related coping and low levels of disengagement-related coping. Thus, an avenue for future research is to use the same experimental paradigm but expand the subject pool to include general community members in an attempt to represent a broader range of emotional experience.

Study 2 demonstrated that the manipulation of the appraisal of problem-focused coping potential prior to beginning a difficult learning task interacted with perceptions of athletic competence to influence the use of active engagement coping, perseverance, and understanding during the task. Focusing on participants with higher self-reported ratings of their athletic competence, the difference between groups was as expected, with the *Easy* group using more active engagement coping, perseverance, and understanding than the *Difficult* group. However, participants with lower ratings of athletic competence did not behave as predicted. Instead, less athletically competent participants in the *Difficult* group reported using more active engagement coping, perseverance, and understanding than equally less athletically competent participants in the *Easy* group. These interaction effects observed in the self-report data were consistent with the coded behavioral data that indicated a similar interaction effect for the number of tosses completed during the task. In particular, highly athletically competent participants in the *Easy* group completed more tosses than highly athletically competent participants in the *Difficult* group. Taken together, these findings suggest that participants with low athletic competence in the *Difficult* group and high athletic competence in the *Easy* group were the most actively engaged during the difficult learning task.

Interestingly, the less athletically competent participants in the *Easy* group were less actively engaged in the task than their counterparts in the *Difficult* group. One possible explanation for this finding is that participants with low perceived athletic competence in the

Easy group did not want to engage in the learning task because they did not want to threaten their self-esteem by potentially failing an easy task. The literature on achievement motivation supports this idea, as achievement behavior can be defined as either demonstrating high ability or avoiding demonstrating low ability (Klinger, 1975; Nicholls, 1984). Tasks of varying difficulty contrast in their potential to demonstrate competence, with mastery of normatively difficult tasks demonstrating ability and failure on normatively easy tasks demonstrating incompetence (Nicholls, 1984). Within this framework, easy tasks only have the potential to expose incompetence relative to others because mastery on an easy task does not indicate competence per se, but rather the lack of incompetence (Nicholls, 1984). Thus, for individuals with low perceived ability, difficult tasks are preferred over easy tasks because difficult tasks allow for the potential of displaying ability while also avoiding revealing one's inability (McFarlin & Blascovich, 1981; Nicholls, 1984). Participants in Study 2 were not given the choice of task because they were randomly assigned to condition, but it can be inferred that being in the *Easy* group would have been less preferable compared to being in the *Difficult* group for participants with low perceived athletic competence. Less athletically competent participants in the *Easy* group likely (and quickly) realized that the risk of demonstrating inability and incompetence was high, and these participants may have coped with this threat by not giving the task their full effort to protect their self-esteems. In other words, these participants could potentially claim that their failure was due to decreased engagement rather than lack of ability (Feick & Rhodewalt, 1997; Midgley & Urdan, 2001; Tice, 1991; Urdan, 2004). Therefore, the buffering of one's self esteem may have been a motive for the less athletically competent participants in the *Easy* group to engage with the task to a lesser extent compared to participants with low perceived athletic competence in the *Difficult* group.

Study 2 also showed that manipulating appraisals of problem-focused coping potential prior to beginning the task also impacted the use of information seeking and planning during the task, but the findings were not as expected and also only marginally significant. More broadly, I initially hypothesized that participants in the *Difficult* group would be less engaged with the learning task than participants in *Easy* group, as shown by the use of coping strategies such as disengagement, distraction, and reprioritization of goals or minimization of the importance of the task at hand. However, the present findings did not support this prediction; rather, the *Difficult* group endorsed using more information seeking and planning than the *Easy* group, suggesting that the *Difficult* group spent more time thinking rather than "doing" compared to the *Easy* group.

The *Difficult* group also endorsed using other engagement-related coping strategies such as active engagement coping and perseverance, though not significantly more than the *Easy* group based on condition only. Notably, in spite of effects of condition or perceived athletic competence, both groups reported using relatively high levels of active engagement coping, perseverance, and understanding. In contrast, both groups reported using relatively low levels of disengagement, distraction, and reprioritization. Yet, in spite of these potential ceiling and floor effects, I was still able to observe effects of manipulating appraisals of problem-focused coping, as well as the effects of perceived athletic competence and its interaction with the experimental manipulation.

To conclude, Study 2 tested how manipulating the appraisal of problem-focused coping potential prior to beginning a difficult task would influence emotion and coping during the task. Hypotheses for relationships between appraisal and coping were largely supported, particularly for engagement-related coping strategies, with the appraisal of problem-focused coping potential

interacting with perceived athletic competence to influence behavior and coping. Future research is required to replicate and further explore the interaction effects of perceived athletic competence and the appraisal of problem-focused coping potential on emotion and coping. Nonetheless, Study 2 makes the critical contribution to the literature of identifying cognitive appraisal as a key mechanism that could help explain the use of a diverse repertoire of coping strategies.

CHAPTER IV

STUDY 3

The main objective of Study 3 was to observe the full emotion process naturally unfold across time by exploring how appraisals, emotions, and coping are related to one other and how these constructs change across a two-month period of college within the context of taking exams in an Introduction to Psychology course. I was primarily interested in the positive emotion of determination and the negative emotion of resignation because both of these emotions seemed relevant to achievement-focused situations. To elaborate, determination is associated with the appraisal of high problem-focused coping potential, which explains how determination motivates perseverance and task engagement in spite of adversity (Kirby et al., 2014). Compared to determination, emotion theory posits that resignation is associated with low problem-focused coping potential and situational withdrawal (Smith & Lazarus, 1993). Therefore, resignation may also motivate task disengagement, rather than engagement.

Previously, Folkman and Lazarus (1985) demonstrated how undergraduate students use both emotion-focused coping and problem-focused coping before and after exams. Furthermore, problem-focused coping was more common before taking exams, whereas emotion-focused coping was more prevalent before receiving grades (Folkman & Lazarus, 1985). To extend this research, Study 3 utilized a longitudinal survey design to examine how appraisal and coping can influence subsequent emotional experience at a later point in time.

Method

Participants

Participants were undergraduate students at Vanderbilt University (n = 82; 58.54% female) who were recruited from the General Psychology introductory course and participated in Study 3 for research credit. Recruitment occurred at the start of two semesters (i.e., the Fall 2015 and Spring 2016 semesters); the same professor taught each semester's course and used the same course structure. Participants ranged in age from 18 to 22 years old (M = 18.74, SD = 0.90). The Vanderbilt Institutional Review Board approved Study 3.

Across the two semesters, 150 students were originally enrolled in Study 3, but only 54.67% of these participants completed all four surveys across the four time points. Thus, only the 82 participants with complete data were included in the analyses for Study 3.

Measures

Similar to the retrospective survey in Study 1, the prospective surveys in Study 3 included items measuring appraisals, emotions, motivational goals, and coping behaviors experienced in relation to an exam in the General Psychology course. Pre-exam appraisals were assessed using a modified version of the appraisal questionnaire from Study 1 (Appendix H). The post-exam appraisal questionnaire matched the appraisal questionnaire from Study 1 (Table 2) except for the following modified instructions: "We would like to ask you some questions about your thoughts and feelings right now regarding the last exam that you took in Introduction to Psychology, including your thoughts and feelings about your performance and grade on the exam. Please use the 9-point scale depicted for each item. Indicate your ratings by selecting the

appropriate number (1 to 9)." Notably, the acceptability appraisal item was omitted from both appraisal questionnaires because the surveys were administered around situations that participants have regularly encountered—preparing for exams and receiving exam grades—and thus, inquiring about the social acceptability of the situation seemed awkward and unnecessary.

To match the motivational congruence variable from Study 1, I intended to reverse-score the items for pre-exam motivational incongruence and average these items with the respective pre-exam motivational congruence items to create two new pre-exam congruence variables; it should be noted that post-exam appraisals of motivational congruence and incongruence were not relevant to any of my hypotheses, and thus, these variables were not used in any of the analyses. However, the reliability of these new pre-exam congruence items was surprisingly low (both αs < .11), Furthermore, post-hoc correlational analyses indicated that, for appraisals prior to Exam 1, congruence and incongruence were uncorrelated ($r = -.058$, $p = .61$); similarly, pre-Exam 2 appraisals of congruence and incongruence were also uncorrelated ($r = -.017$, $p = .88$). Thus, I decided to revert to the original motivational congruence and incongruence items and use these items as separate appraisal variables in the analyses.

Emotions were assessed using questionnaires that were almost identical to the questionnaires used to assess appraisals and emotions in Study 2, except that the instructions were changed to reflect its focus on the specific exam. In the pre-exam emotion questionnaires, the critical modification in instructions were as follows: "Below are a number of clusters of adjectives that describe different emotions or feelings. Each group of adjectives is meant to get at a **single** basic feeling or emotion. Please indicate the extent to which each cluster of adjectives characterizes the way you feel right now about the upcoming exam in Introduction to Psychology. Please use the 9-point scale depicted below. Indicate your ratings by writing the

appropriate number (1 to 9) for **each** cluster of adjectives." In contrast, the modified instructions in the post-exam emotion questionnaires stated: "Please indicate the extent to which each cluster of adjectives characterizes the way you feel right now about the last exam that you took in Introduction to Psychology, including how you feel about your performance and grade on the exam." In both versions of the emotion questionnaire, participants responded to each item using a Likert scale (*1* = Not at all and *9* = Extremely). To match Study 1, the responses for the sadness and the resignation items at each respective time point were averaged to create four new sadness/resignation variables used in the final analyses (all αs > .79).

The modified versions of the motivational goals questionnaire from Study 1 were used again in Study 3, except with the following modifications to the instructions to the pre-exam questionnaires: "We are interested in how you **want** to respond to the upcoming exam in Introduction to Psychology. Each statement describes something you might feel like doing. For each, please indicate the extent to which you wanted to do this thing." In addition, the post-exam questionnaires was modified to reflect the respective time point: "We are interested in how you **want** to respond to the last exam that you took in Introduction to Psychology, including how you want to respond to the grade that you received."

The COPE from Study 2 was used again in Study 3, except that past tense of the instructions was changed to present tense and the items were modified to focus on a particular exam—either the upcoming exam in the pre-exam coping questionnaire (Appendix I) or the most recent exam in the post-exam coping questionnaire (Appendix J).

Finally, the pre-Exam 1 survey included demographic items regarding age and sex, as well as questionnaires measuring optimism and self-esteem that were not the focus of Study 3.

Procedure

Participants were prospectively surveyed over a two-month period. All participants completed the survey at four time points: 1) before taking Exam 1; 2) after receiving Exam 1 grades; 3) before taking Exam 2; and 4) after receiving Exam 2 grades. See Table 19 for a description of each time point and a list of which questionnaires were administered. All of the surveys used at each time point were identical except for three key differences. First, the pre-Exam 1 survey also included demographic and personality measures. Second, both pre-exam surveys included an expectation item ("*What percentage score (i.e., grade) do you expect to get on the upcoming General Psychology exam?*"). Finally, both post-exam surveys included a performance item ("*What grade did you get on the recent General Psychology exam?*"). Each survey took approximately 30 minutes to complete.

Participants came into the laboratory to complete the survey before Exam 1 so that an experimenter could thoroughly explain the design of Study 3 and obtain informed consent from each participant. For all other time points, participants were emailed a survey link and provided with a survey completion deadline, with reminder emails sent before each deadline.

Hypotheses

According to previous research on determination (Kirby et al., 2014), I hypothesized that, before and after each exam, appraisals of high problem-focused coping potential and high future expectancy would be associated with the experience of determination at the same time point (Hypothesis 1). Conversely, I hypothesized that low problem-focused coping potential and low future expectancy before each exam would be associated with pre-exam experiences of sadness/resignation (Hypothesis 2).

Table 19. Longitudinal design of Study 3.

TIME POINT	DESCRIPTION	QUESTIONNAIRES
1: Pre-Exam 1	2-7 days before Exam 1	- Demographic items - Expectation item - Personality questionnaires - Appraisal questionnaire - Emotion questionnaire - Motivational goal questionnaire - Coping questionnaire
2: Post-Exam 1	Up to 5 days after receiving Exam 1 grade	- Performance item - Appraisal questionnaire - Emotion questionnaire - Motivational goal questionnaire - Coping questionnaire
3: Pre-Exam 2	2-7 days before Exam 2	- Expectation item - Appraisal questionnaire - Emotion questionnaire - Motivational goal questionnaire - Coping questionnaire
4: Post-Exam 2	Up to 5 days after receiving Exam 2 grade	- Performance item - Appraisal questionnaire - Emotion questionnaire - Motivational goal questionnaire - Coping questionnaire

Based on the motivational goals associated with determination, pre-exam experiences of determination would be associated with the increased use of active coping, perseverance, and self-encouragement before each exam (Hypothesis 3). In contrast, sadness/resignation would be associated with the use of disengagement strategies before each exam, particularly behavioral disengagement (i.e., giving up) and physical disengagement (i.e., getting away from the

situation), as well as self-isolation (Hypothesis 4; Smith & Lazarus, 1993). Finally, with regard to performance, I hypothesized that pre-exam appraisals of problem-focused coping potential would increase exam performance (Hypothesis 5).

In terms of differences in appraisal and coping, I hypothesized that appraisals of problem-focused coping potential would be greater before exams compared to after finding out exam grades (Hypothesis 6). I also hypothesized that experiences of determination would be greater prior to exams versus after receiving exam grades, whereas experiences of sadness/resignation would be greater after receiving exam grades (Hypothesis 7). Based on the findings from Folkman and Lazarus (1985), I also hypothesized that active coping, information seeking, perseverance, and planning would be predominantly used as coping strategies prior to exams (Hypothesis 8), whereas behavioral and physical disengagement and self-isolation would be used as coping strategies following the notifications of exam grades (Hypothesis 9).

Finally, appraisal theory posits that emotions are derived from evaluations of situations and how these situations relate to one's circumstances, goals, and motivations (Roseman & Smith, 2001; Smith & Lazarus, 1990). Thus, I hypothesized that previous and current appraisals of high problem-focused coping potential and expected exam performance (which should reflect the participant's perception of the situation) would predict future experiences of determination (Hypothesis 10). In contrast, I hypothesized that appraisals of low problem-focused coping potential and expected exam performance would predict future experiences of sadness/resignation (Hypothesis 11). With regard to the effects of coping on subsequent emotional experience, I hypothesized that experiences of determination would be predicted by the use of active engagement coping, perseverance, and self-encouragement at the previous time point, even after controlling for actual and predicted exam grades (Hypothesis 12). In contrast,

experiences of sadness/resignation would be predicted by the use of behavioral disengagement, physical disengagement, and self-isolation at the previous time point (Hypothesis 13).

Analyses

Appraisal-Emotion Relationships. Regressions were conducted to test how appraisals and emotion were related to coping in a cross-sectional design that focused on a specific time point for each regression model. For each emotion of interest, separate hierarchical regression models looked at associations between appraisals and emotion (Hypotheses 1 and 3) and between emotion and coping (Hypotheses 2 and 4). For the appraisal-emotion regression models, the independent variables were entered into the analysis in a series of regression models identical to Study 1. In particular, there was a hypothesized regression model with the demographic variables (i.e., age and sex) and appraisal variables hypothesized to be associated with the emotion, and an exploratory regression model that included all other appraisal variables. Each exploratory regression model involved 17 *t*-tests; to correct for multiple comparisons, a Bonferroni correction of $p < .0029$ was set for the exploratory appraisal-emotion regression models.

Emotion-Coping Relationships. In parallel, for the emotion-to-coping regression models, the independent variables were also entered in a series of regression models. First, in the hypothesized regression model, the demographic variables and emotion variable of interest were entered. Then, in the exploratory regression model, all other emotion variables were included as predictors of the specific coping strategy of interest. Each exploratory regression model included 23 *t*-tests, and therefore, a Bonferroni correction of $p < .0022$ was applied to the exploratory emotion-coping regression models.

Mediation of Emotion-Coping Relationships. To test how motivational goals mediated the emotion-to-coping relationships, three sets of analyses were conducted. First, for each hypothesized emotion-to-motivation relationship, a regression model that included the demographic variables and the emotion variable of interest was used to test if emotion predicted motivational goals as expected. In addition, exploratory regression models were used to see if the emotion of interest also unexpectedly predicted other motivational goals. These exploratory models included the emotion variable of interest with the demographic variables and all other emotion variables as predictors of a single motivational goal. Each of these models included 23 *t*-tests, and therefore, a Bonferroni correction of $p < .0022$ was applied to the exploratory emotion-motivation regression models. The purpose of this analysis was to identify the motivational goals prompted by the emotion of interest.

Second, relationships between motivation and coping were also assessed using a series of regression models. In the hypothesized regression model, motivational goals hypothesized to predict the specific coping strategy were entered as independent variables, along with the demographic variables. Then, in the exploratory regression model, all other motivational goal variables were included. Each of these models included 23 *t*-tests, and therefore, a Bonferroni correction of $p < .0022$ was applied to the exploratory motivation-coping regression models. The purpose of this analysis was to determine which motivational goals prompted a specific coping strategy.

If the above emotion-motivation and motivation-coping relationships were supported, then a mediation model was conducted to test if the motivational goal associated with each coping strategy mediated the effects of emotion on the use of that strategy. These mediation models included the emotion and its motivational goal as predictors of the coping strategy.

Identical to Study 1, full mediation occurred when the emotion-coping relationship was no longer significant after including the motivational goal as a mediator; in contrast, partial mediation occurred when the motivational goal accounted for some, but not all, of the emotion-coping relationship as indicated (Baron & Kenny, 1986). The Aroian (1944/1947) version of the Sobel (1982) test was used to test if the emotion-coping relationships were significantly reduced after the inclusion of the motivational goal variable, thereby determining if the observed full and partial mediation effects were significant. In reporting the results of the mediation models, the significance levels of the Aroian tests are used to establish the statistical significance of all mediation effects.

Appraisal-Performance Relationships. Hierarchical regressions were then used to look at how appraisals predicted exam performance (Hypothesis 5). The dependent variable was exam score, and separate regression models were conducted for each exam. The independent variables were entered into the analyses in two blocks as follows: 1) demographic variables (i.e., age and sex) and the appraisal of problem-focused coping potential at the previous time point, and 2) all other appraisal variables at the previous time point. Each exploratory regression model involved 17 *t*-tests, and thus, a Bonferroni correction of $p < .0029$ was applied.

Appraisal and Performance as Predictors of Emotion. A separate set of hierarchical regressions was used to assess how appraisals of problem-focused coping potential, expected exam grade, and actual exam grade predicted emotion after receiving Exam 1 grades and before and after Exam 2 (Hypotheses 10 and 11). The dependent variables were determination and sadness/resignation either after Exam 1, before Exam 2, or after Exam 2 with each variable in its own regression model. The independent variables were entered into the regression models as follows: 1) exam grade (for either Exam 1 or Exam 2, depending on the time point) and

appraisals of problem-focused coping potential both before and at the current time point; and 2) expected performance on the respective exam. The point of the second step of the regression was to see if performance expectations explained any effects beyond actual performance and the appraisal variables.

Coping-Emotion Relationships. Finally, hierarchical regression analyses were employed to test the effect of previous coping on current emotional experience (Hypotheses 12 and 13). At each time point except for the first one, two separate regression models were conducted with either determination or sadness/resignation as the dependent variable, and each model involved two steps as follows: 1) demographic variables (i.e., age and sex) and the coping variables hypothesized to be related to each respective dependent variable as proposed in Hypotheses 2 and 3; and 2) expected and actual grades. The purpose of the second step of the regression analysis was to test if actual or expected performance accounted for any effects of coping on emotion, as well as to observe if these performance variables had any effects on emotional experience.

Appraisal and Emotion Across Time. Repeated measures MANOVAs (McCall & Appelbaum, 1973; O'Brien & Kaiser, 1985) were used to test for mean differences between appraisals of problem-focused coping potential at each time point, as well as differences in the use of specific coping behaviors at each time point (Hypotheses 6, 7, 8, and 9). Planned contrasts were used to test for differences across time.

Results

Appraisal-Emotion Relationships Prior to Exams

As in Study 1, I tested the appraisal patterns of determination and sadness/resignation in Study 3, focusing on pre-exam emotional experience. I originally hypothesized that appraisals of problem-focused coping potential and future expectancy would be the key appraisals implicated in experiences of determination before each exam (Hypothesis 1). However, problem-focused coping potential did not predict determination before either exam, and future expectancy only predicted determination before Exam 2; this finding was marginally significant ($p < .10$; Table 20). Nonetheless, the appraisal of motivational relevance did predict determination before each exam. In addition, self-accountability unexpectedly predicted determination before Exam 2.

I also hypothesized that low problem-focused coping potential and low future expectancy would predict sadness/resignation before each exam (Hypothesis 2). Indeed, both of these appraisals predicted experiences of sadness/resignation before Exam 1 (Table 21). Before Exam 2, the appraisal of low problem-focused coping potential was a marginally significant predictor of sadness/resignation ($p = .074$), along with motivational incongruence. In the exploratory models, negative evaluation by others also predicted sadness/resignation before both exams.

Emotion-Coping Relationships Before Exams

Along with appraisal patterns, I also tested the pre-exam coping patterns associated with determination and sadness/resignation. I originally hypothesized that experiences of determination would predict the use of active coping, perseverance, and self-encouragement prior to both exams (Hypothesis 3).

Table 20. Regression models for predictors of determination before exams.

	Hypothesized Model Exam 1: R^2 = .24, F(6, 74) = 3.97 *** Exam 2: R^2 = .40, F(6, 75) = 8.48 ***		Exploratory Model Exam 1: R^2 = .37, F(17, 62) = 2.17 * Exam 2: R^2 = .61, F(17, 64) = 5.82 ***	
	Regression Coefficient (β)	Effect Size (sr^2)	Regression Coefficient (β)	Effect Size (sr^2)
Before Exam 1				
Future expectancy	.12			
Motivational relevance	.38 **	.11 **		
Motivational incongruence	−.18			
Problem-focused coping potential	.054			
Before Exam 2				
Future expectancy	.16			
Motivational relevance	.56 ***	.23 ***		
Motivational incongruence	−.15			
Problem-focused coping potential	.063			
Self-accountability			*.40 *****	*.12 **

* p<.05, ** p<.01, *** p<.001

Indeed, before both Exam 1 and Exam 2, experiences of determination significantly predicted the use of active coping in the hypothesized regression models (Table 22). Experiences of determination also predicted the use of perseverance before both Exam 1 and Exam 2 (Table 23). With regard to the use of self-encouragement, experiences of determination predicted self-encouragement before both exams, but the pre-Exam 1 finding was only marginally significant (p = .099; Table 24).

Table 21. Regression models for predictors of sadness/resignation before exams.

	Hypothesized Model Exam 1: R^2 = .34, F(6, 74) = 6.36 *** Exam 2: R^2 = .23, F(6, 75) = 3.78 **		Exploratory Model Exam 1: R^2 = .58, F(17, 62) = 5.10 *** Exam 2: R^2 = .47, F(17, 64) = 3.33 ***	
	Regression Coefficient (β)	Effect Size (sr^2)	Regression Coefficient (β)	Effect Size (sr^2)
Before Exam 1				
Future expectancy	−.42 ***	.14 ***		
Motivational relevance	.12			
Motivational incongruence	.075			
Problem-focused coping potential	−.23 *	.039		
Negative evaluation by others			*.37 *****	*.11 ***
Before Exam 2				
Future expectancy	−.18			
Motivational relevance	.15			
Motivational incongruence	−.24 *	.047		
Problem-focused coping potential	−.20			
Negative evaluation by others			*.34 *****	*.074 **

* p<.05, ** p<.01, *** p<.001

Moreover, the model fit of the hypothesized regression model for pre-Exam 1 was very poor. In the exploratory regression models, no other emotion variables predicted the use of these engagement-related coping strategies.

To gain a better understanding of why determination predicted the use of these engagement-related coping strategies, I examined the relationships between experiences of

determination and motivational goals. As expected, experiences of determination prompted the desire to persevere before Exam 1 ($F(3, 78) = 3.71$, $p = .015$, $R^2 = .12$; $\beta = .21$, $p = .063$) and before Exam 2 ($F(3, 78) = 10.69$, $p < .001$, $R^2 = .29$; $\beta = .53$, $p < .001$). The exploratory regression models did not connect any other motivational goals with determination.

Table 22. Regression models for predictors of active engagement coping before exams.

	Hypothesized Model Exam 1: $R^2 = .34$, $F(3, 77) = 13.07$ *** Exam 2: $R^2 = .28$, $F(3, 78) = 9.90$ ***		Exploratory Model Exam 1: $R^2 = .54$, $F(22, 58) = 3.09$ *** Exam 2: $R^2 = .50$, $F(22, 59) = 2.65$ **	
	Regression Coefficient (β)	Effect Size (sr^2)	Regression Coefficient (β)	Effect Size (sr^2)
Before Exam 1 Determination	.46 ***	.20 ***		
Before Exam 2 Determination	.44 ***	.18 ***		

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

Table 23. Regression models for predictors of perseverance before exams.

	Hypothesized Model Exam 1: $R^2 = .28$, $F(3, 77) = 9.81$ *** Exam 2: $R^2 = .41$, $F(3, 78) = 18.40$ ***		Exploratory Model Exam 1: $R^2 = .61$, $F(22, 58) = 4.12$ *** Exam 2: $R^2 = .66$, $F(22, 59) = 5.12$ ***	
	Regression Coefficient (β)	Effect Size (sr^2)	Regression Coefficient (β)	Effect Size (sr^2)
Before Exam 1 Determination	.52 ***	.039		
Before Exam 2 Determination	.64 ***	.26 ***		

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

Table 24. Regression models for predictors of self-encouragement before exams.

	Hypothesized Model Exam 1: R^2 = .048, F(3, 77) = 1.30 Exam 2: R^2 = .10, F(3, 78) = 2.93 *		Exploratory Model Exam 1: R^2 = .45, F(22, 58) = 2.14 * Exam 2: R^2 = .43, F(22, 59) = 2.02 *	
	Regression Coefficient (β)	Effect Size (sr^2)	Regression Coefficient (β)	Effect Size (sr^2)
Before Exam 1 Determination	.19			
Before Exam 2 Determination	.33 **	.10 **		

* p<.05, ** p<.01, *** p<.001

After demonstrating the emotion-motivation relationships, I tested the motivation-coping relationships to see if the motivational goal associated with determination predicted the use of the engagement-related coping strategies. Indeed, the motivational goal of persevering predicted the use of perseverance to cope before both Exam 1 (F(3, 77) = 5.44, p < .01, R^2 = .18; β = .41, p < .001) and Exam 2 (F(3, 78) = 7.33, p < .001, R^2 = .22; β = .44, p < .001). Wanting to persevere also predicted the use of self-encouragement before Exam 1 (F(3, 77) = 4.91, p < .01, R^2 = .16; β = .40, p < .001) and the use of active engagement coping before Exam 2 (F(3, 78) = 5.11, p < .01, R^2 = .16; β = .26, p = .015). Strangely, the uses of active engagement coping before Exam 1 and self-encouragement before Exam 2 were unrelated to wanting to persevere (both ps > .10). Again, the exploratory regression models did not implicate any other motivational goal variables as predictors of the engagement-related coping strategies of interest.

After establishing the emotion-motivation and motivation-coping relationships, separate mediation models were used to test how motivation might mediate the effects of determination on the use of these engagement-related coping strategies. First, wanting to persevere did not

mediate the effect of determination on the use of active engagement coping, neither before Exam 1 ($F(4, 76) = 9.71$, $p < .001$, $R^2 = .34$) nor before Exam 2 ($F(4, 77) = 7.41$, $p < .001$, $R^2 = .28$). Second, before Exam 1 ($F(4, 76) = 10.79$, $p < .001$, $R^2 = .36$), the motivational goal of persevering ($\beta = .31$) partially mediated the effect of determination ($\beta = .46$) on the use of perseverance to cope (both ps $< .01$); the Aroian (1944/1947) version of the Sobel (1982) test indicated that this mediation effect was marginally significant ($p = .068$). However, wanting to persevere did not mediate this emotion-coping effect before Exam 2 ($F(4, 77) = 14.61$, $p < .001$, $R^2 = .43$). Finally, the motivational goal of persevering ($\beta = .38$, $p < .01$) fully mediated the relationship between determination ($\beta = .12$, $p = .30$) and the use of self-encouragement before Exam 1 ($F(4, 76) = 3.96$, $p < .01$, $R^2 = .17$), but not before Exam 2 ($F(4, 77) = 2.18$, $p = .079$, $R^2 = .10$). The mediation effect of wanting to persevere before Exam 1 was marginally significant ($p = .064$).

Transitioning from determination to sadness/resignation, I also hypothesized that experiences of sadness/resignation prior to exams would predict the use of behavioral disengagement, physical disengagement, and self-isolation (Hypothesis 4). Though conceptually quite similar, behavioral disengagement referred to mentally giving up, whereas physical disengagement concerned actually retreating from the situation at hand; in contrast, self-isolation referred to not only physically removing oneself from the situation, but also separating oneself from other people. According to the separate hypothesized regression models, sadness/resignation significantly predicted the use of behavioral disengagement before each exam (Table 25). In addition, experiences of sadness/resignation also predicted the use of physical disengagement prior to each exam (Table 26). Finally, sadness/resignation predicted the use of self-isolation, but only before Exam 2 (Table 27). In the exploratory regression models, no

other unexpected emotion variables predicted the use of these disengagement-related coping strategies.

Table 25. Regression models for predictors of behavioral disengagement before exams.

	Hypothesized Model Exam 1: R^2 = .31, F(3, 77) = 11.27 *** Exam 2: R^2 = .24, F(3, 78) = 8.12 ***		Exploratory Model Exam 1: R^2 = .51, F(23, 57) = 2.60 ** Exam 2: R^2 = .61, F(23, 57) = 3.85 ***	
	Regression Coefficient (β)	Effect Size (sr^2)	Regression Coefficient (β)	Effect Size (sr^2)
Before Exam 1 Resignation	.53 ***	.28 ***		
Before Exam 2 Resignation	.43 ***	.17 ***		

* p<.05, ** p<.01, *** p<.001

Table 26. Regression models for predictors of physical disengagement before exams.

	Hypothesized Model Exam 1: R^2 = .18, F(3, 77) = 5.79 ** Exam 2: R^2 = .26, F(3, 78) = 9.08 ***		Exploratory Model Exam 1: R^2 = .42, F(23, 57) = 1.79 * Exam 2: R^2 = .60, F(23, 57) = 3.71 ***	
	Regression Coefficient (β)	Effect Size (sr^2)	Regression Coefficient (β)	Effect Size (sr^2)
Before Exam 1 Resignation	.40 ***	.16 **		
Before Exam 2 Resignation	.55 ***	.29 ***		

* p<.05, ** p<.01, *** p<.001

Table 27. Regression models for predictors of self-isolation before exams.

	Hypothesized Model Exam 1: R^2 = .029, F(3, 77) = 0.77 Exam 2: R^2 = .16, F(3, 78) = 5.10 **		Exploratory Model Exam 1: R^2 = .25, F(23, 57) = 0.82 Exam 2: R^2 = .43, F(23, 57) = 1.88 *	
	Regression Coefficient (β)	Effect Size (sr^2)	Regression Coefficient (β)	Effect Size (sr^2)
Before Exam 1 Resignation	.14			
Before Exam 2 Resignation	.41 ***	.15 ***		

* p<.05, ** p<.01, *** p<.001

To understand the role of motivation in explaining the effects of sadness/resignation on coping, I examined the motivational goals associated with sadness/resignation and the disengagement-related strategies. Sadness/resignation predicted the motivational goal of recovering before Exam 1 (F(3, 78) = 6.55, p < .001, R^2 = .20; β = .44, p < .001) and before Exam 2 (F(4, 77) = 14.64, p < .001, R^2 = .36; β = .60, both ps < .001). The goal of recovering involved wanting to take a break from the present situation to recuperate, perhaps due to the overwhelming nature of preparing for the upcoming exam. Wanting to recover then predicted the use of behavioral disengagement (F(3, 77) = 3.27, p = .026, R^2 = .11; β = .30, p < .01) and physical disengagement (F(3, 77) = 6.45, p < .001, R^2 = .20; β = .42, p < .001) before Exam 1, as well as the use of behavioral disengagement (F(3, 78) = 4.94, p < .01, R^2 = .16; β = .32, p < .01) and physical disengagement (F(3, 78) = 8.50, p < .001, R^2 = .25; β = .48, p < .001) before Exam 2. The exploratory regression models did not identify any other motivational goals associated with sadness/resignation or the disengagement-related coping strategies of interest.

As with the emotion-coping relationships for determination, mediation models were used to test how motivation might explain the effects of sadness/resignation on the use of disengagement-related coping strategies. First, wanting to recover did not mediate the relationship between sadness/resignation and the use of behavioral disengagement, neither before Exam 1 ($F(4, 76) = 8.55$, $p < .001$, $R^2 = .31$) nor before Exam 2 ($F(4, 77) = 6.22$, $p < .001$, $R^2 = .24$). However, the motivational goal of recovering (both βs < .24) partially mediated the effects of sadness/resignation (both βs < .26) on the use of physical disengagement before Exam 1 ($F(4, 76) = 6.60$, $p < .001$, $R^2 = .26$) as well as before Exam 2 ($F(4, 77) = 10.45$, $p < .001$, $R^2 = .35$). Both of these mediations effects were significant according to the Aroian tests (both ps < .045). Finally, wanting to recover (β = .28, $p = .028$) mediated the effect of sadness/resignation (β = .24, $p = .067$) on the use of self-isolation before Exam 2 ($F(4, 77) = 5.28$, $p < .001$, $R^2 = .22$), and this mediation effect was statistically significant ($p = .030$). I did not conduct a mediation model for pre-Exam 1 because sadness/resignation did not predict self-isolation before Exam 1.

Taken together, the hypotheses for determination predicting the use of engagement-related strategies and for sadness/resignation predicting the use of disengagement-related strategies were generally supported. Furthermore, the motivational goals associated with each respective emotion mediated the relationships between sadness/resignation and the disengagement-related coping strategies to a greater extent than in the mediation models for determination and the engagement-related strategies.

Appraisals as Predictors of Exam Performance

Along with appraisal patterns of emotion, I was also interested in testing how appraisal predicted actual exam performance, and I hypothesized that appraisals of problem-focused

coping potential prior to each exam would predict subsequent exam performance (Hypothesis 5). Contrary to my original hypothesis, problem-focused coping potential before Exam 1 did not predict performance on Exam 1, potentially due to poor model fit (Table 28).

Table 28. Regression models for predictors of exam performance.

	Hypothesized Model Exam 1: R^2 = .081, F(3, 77) = 2.27 Exam 2: R^2 = .088, F(3, 78) = 2.51		Exploratory Model Exam 1: R^2 = .35, F(17, 62) = 1.94 * Exam 2: R^2 = .27, F(17, 64) = 1.36	
	Regression Coefficient (β)	Effect Size (sr^2)	Regression Coefficient (β)	Effect Size (sr^2)
Exam 1 Problem-focused coping potential	.15			
Exam 2 Problem-focused coping potential	.23 *	.056 *		

* p<.05, ** p<.01, *** p<.001

As for Exam 2, the appraisal of problem-focused coping potential before the exam did predict actual exam performance, though the hypothesized regression model's fit was poor and only marginally significant (p = .065).

Changes in Appraisal and Emotion Across Time

In addition to cross-sectional hypotheses about the relationships between appraisal, emotion, coping, and exam performance, I also expected appraisal and emotion to change across the two-month period from before Exam 1 to after Exam 2. As predicted (Hypothesis 6), there was a significant difference in appraisals of problem-focused coping potential across the four

time points ($F(3, 78) = 5.60$, $p < .01$, $\eta^2 = .065$; Figure 15). Post-hoc contrasts indicated that, in line with the original prediction, appraisals of problem-focused coping potential after Exam 2 were significantly lower than at all other time points (all *p*s < .01). However, post-Exam 1 appraisals of problem-focused coping potential were not significantly lower than pre-exam appraisals of coping potential; there were no other differences in appraisals of problem-focused coping potential among the other time points (all *p*s > .58).

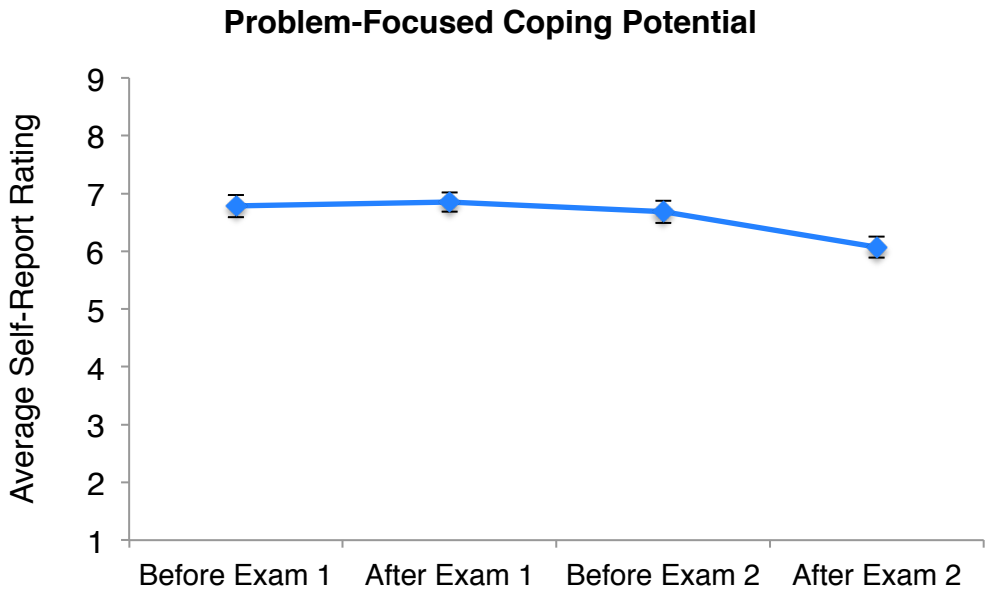


Figure 15. Appraisal ratings of problem-focused coping potential across time. Ratings of problem-focused coping potential after Exam 2 were significantly lower than all other time points; there were no other statistically significant differences in problem-focused coping potential between time points.

In addition to predictions about appraisals varying at each time point, I also hypothesized that determination would be greater before exams compared to after receiving exam grades, whereas sadness/resignation would be greater after exams (Hypothesis 7). Indeed, there were

significant differences in the experiences of determination ($F(3, 79) = 8.84$, $p < .001$, $\eta^2 = .098$; Figure 16) and sadness/resignation ($F(3, 79) = 18.41$, $p < .001$, $\eta^2 = .19$) across time. For determination, post-hoc paired samples *t*-tests showed that there were statistically significant differences between all time points (all *p*s < .05) except for the difference from after Exam 1 to before Exam 2 ($p = .69$). The decrease in the appraisal of problem-focused coping potential after Exam 2 matched the decreased experience of determination at the same time point. In terms of experiences of sadness/resignation, there were significant differences between all time points (all *p*s < .05) except for the difference between the post-exam time points ($p = .20$).

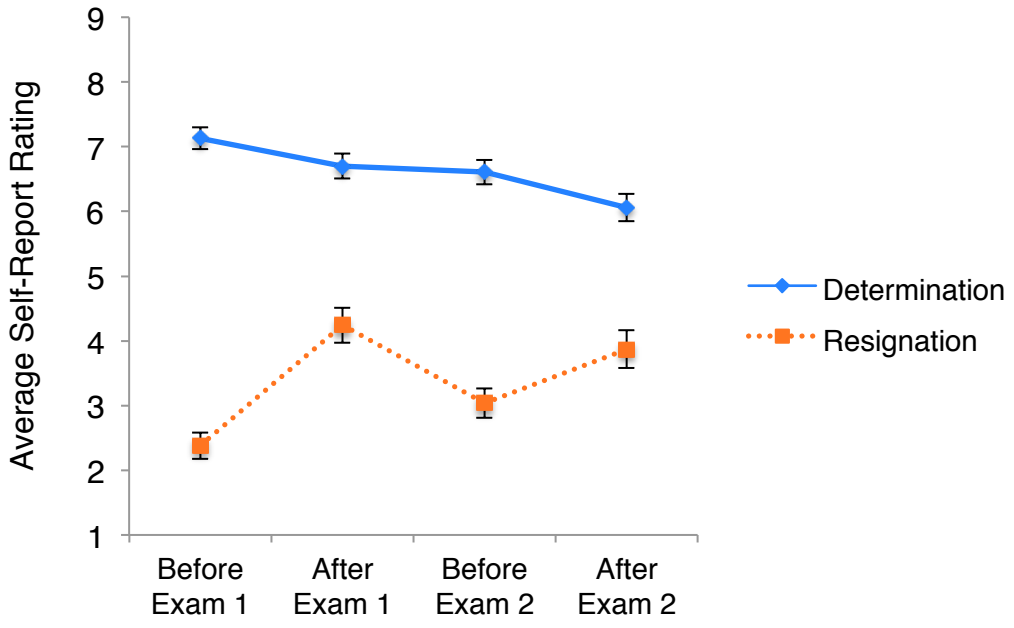


Figure 16. Ratings of determination and sadness/resignation across time. Although there was no significant difference in experiences of determination from receiving Exam 1 grades to preparing for Exam 2, there was a significant decline in determination from before Exam 1 to after Exam 2. In contrast, experiences of sadness/resignation were generally lower before exams and higher after receiving exam grades, but notably, sadness/resignation was also higher when preparing for Exam 2 compared to when preparing for Exam 1.There was no significant difference in sadness/resignation upon receiving grades for each of the exams.

In other words, there was no difference in ratings of sadness/resignation upon receiving Exam 1 grades versus upon receiving Exam 2 grades. However, sadness/resignation at both of these time points was significantly greater than sadness/resignation at the pre-exam time points.

Changes in Coping Across Time

Along with changes in appraisal and emotion across time, I was also interested in how the use of different coping strategies changed across time. I hypothesized that engagement-related coping strategies would be used to a greater extent before, rather than after, exams (Hypothesis 8). There were four engagement-related strategies of interest: active engagement coping, information seeking, perseverance, and planning. Each coping strategy was the dependent variable in its own repeated measures MANOVA to test for the effect of time. First, there was a significant difference in the use of active engagement coping across the four time points ($F(3, 78) = 22.11$, $p < .001$, $\eta^2 = .22$; Figure 17). Post-hoc contrasts confirmed that active engagement coping was significantly greater prior to both exams, rather than after finding out exam grades (all ps $< .001$). There were no significant differences in the use of active engagement coping before Exam 1 versus Exam 2, or after Exam 1 versus after Exam 2 (both ps $> .14$).

Second, there was also a significant difference in the use of information seeking across the four time points ($F(3, 78) = 10.23$, $p < .001$; $\eta^2 = .11$). The pattern of information seeking across the four time points matches the pattern observed for active engagement coping, with participants using significantly more information seeking before exams rather than after (all ps $< .01$). Again, there were no significant differences in the use of information seeking before each exam, or after each exam (both ps $> .50$).

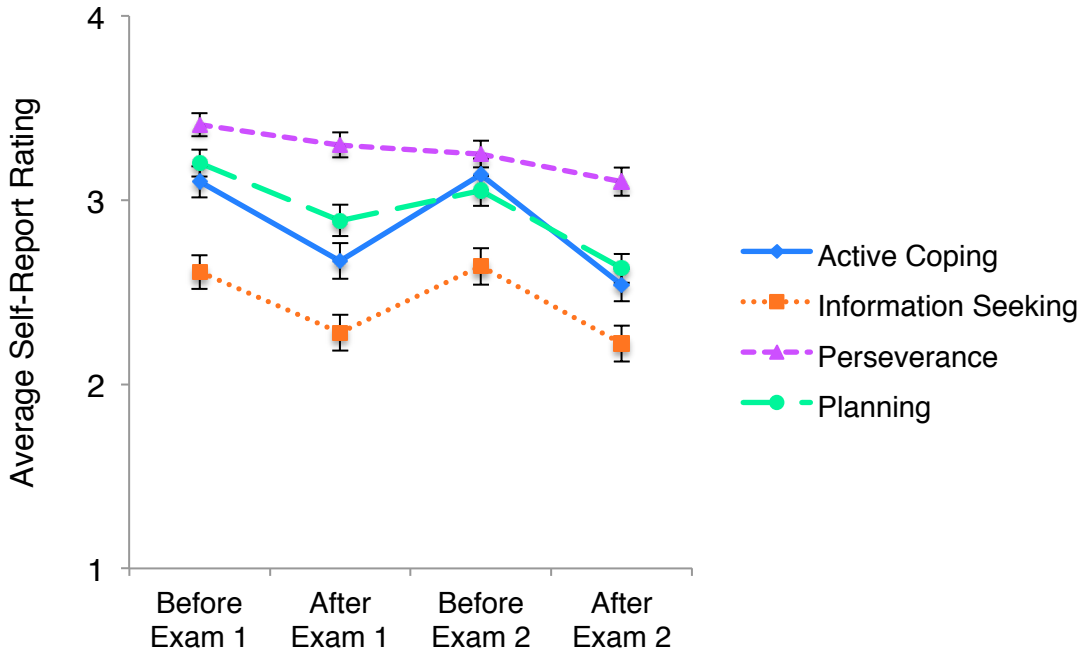


Figure 17. Ratings of engagement-related coping across time. The use of perseverance and planning to cope with exam-related emotion generally decreased across time, whereas the use of active engagement coping and information seeking was higher before exams and lower after receiving exam grades.

Third, there was a change in perseverance across time ($F(3, 78) = 7.22$, $p < .001$, $\eta^2 = .083$). Post-hoc contrasts showed that the use of perseverance as a coping strategy after finding out Exam 2 grades was significantly lower than the use of perseverance at any of the other time points (all ps $< .05$). In addition, the use of perseverance before Exam 2 was significantly lower than before Exam 1 ($p < .01$). Taken together, these findings support the notion that the use of perseverance steadily declined across the two-month period from before Exam 1 to after Exam 2.

Finally, there was a significant difference in the use of planning across the four time points ($F(3, 78) = 18.13$, $p < .001$, $\eta^2 = .18$). Significant differences immediately before and after each exam, as well as more broadly from before Exam 1 to after Exam 2, point to a general decline in the use of planning across the two-month period (all ps $< .001$).

In contrast to the hypotheses about the engagement-related coping strategies, I also hypothesized that participants would use more behavioral disengagement (i.e., giving up), physical disengagement (i.e., physically getting away), and self-isolation after receiving exam grades compared to prior to taking exams (Hypothesis 9). However, because the use of these disengagement-related coping strategies was relatively low (Figure 18), statistical tests of differences across time were not conducted.

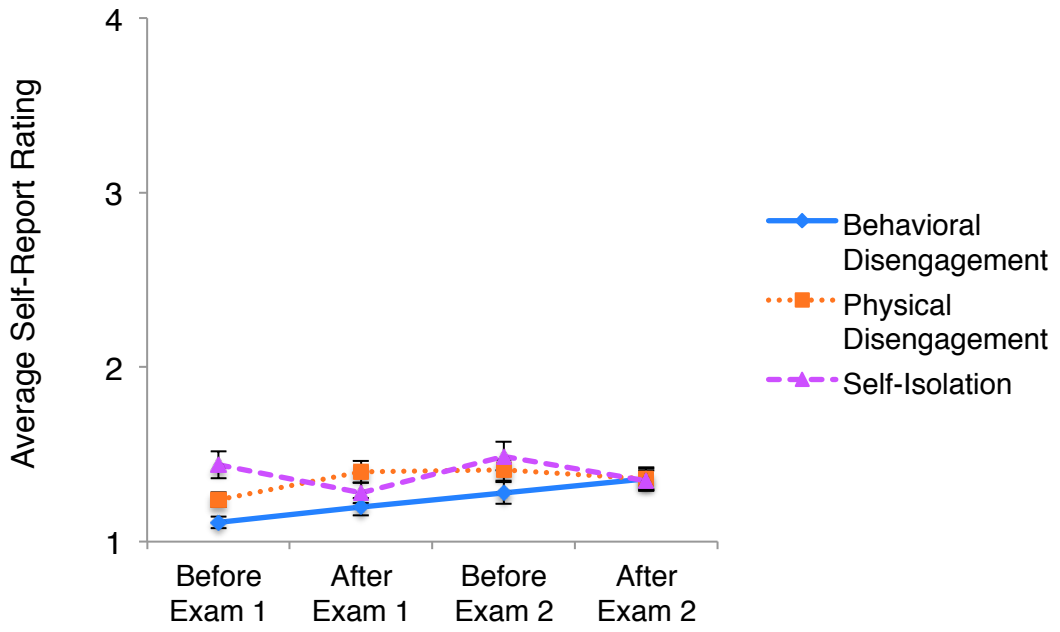


Figure 18. Ratings of disengagement-related coping across time. The use of disengagement-related coping strategies generally increased across time, though participants endorsed using relatively low levels of these strategies.

Nonetheless, the use of these disengagement-related strategies, especially behavioral disengagement, appeared to generally increase across time.

Appraisal and Coping as Predictors of Emotional Experiences

Extending beyond changes in appraisal, emotion, and coping across time, I tested how appraisal and coping each predicted future emotional experience in an attempt to understand the recursive nature of the adaptational process. I originally hypothesized that appraisals of problem-focused coping potential and expected performance would predict emotional experiences of determination (Hypothesis 10) and sadness/resignation (Hypothesis 11). To test this, I ran a series of regression models that evaluated how appraisals of past (i.e., from the previous time point) and present (i.e., of the same time point) problem-focused coping potential, as well as actual versus expected exam grades, predicted determination or sadness/resignation after Exam 1 and before and after Exam 2. Each emotion from each specific time point was included as a dependent variable in its own regression model.

Additionally, I hypothesized that the prior use of specific coping behaviors would predict experiences of determination (Hypothesis 12) and sadness/resignation (Hypothesis 13). As with the appraisal-emotion models, I tested these hypotheses by running a series of regression models that evaluated how past coping behaviors (i.e., from the previous time point) predicted determination or sadness/resignation after Exam 1 and before and after Exam 2; in a second step of this regression model, I included actual and expected exam grades as predictors. Each emotion from each particular time point was again included as the sole dependent variable in each regression model.

Prior and present appraisal as predictors of emotional experience. Appraisals of high problem-focused coping potential after receiving Exam 1 grades predicted high levels of determination (Table 29) and low levels of sadness/resignation (Table 30) after Exam 1, indicating that appraisals of the situation predicted emotional responding to that same situation.

The appraisal of problem-focused coping potential before Exam 1 did not predict emotional experience, suggesting that there is not necessarily a spillover effect of appraisal wherein past appraisals affect current emotional experience. Yet, problem-focused coping potential before Exam 2 predicted greater sadness/resignation, but not determination, after Exam 2.

Table 29. Appraisals, expected grades, and actual grades as predictors of determination.

	STEP 1 MODELS		STEP 2 MODELS	
	Regression Coefficient (β)	Effect Size (sr^2)	Regression Coefficient (β)	Effect Size (sr^2)
DETERMINATION AFTER EXAM 1	$R^2 = .14$, $F(5, 75) = 2.48$ *		$R^2 = .16$, $F(6, 74) = 2.38$ *	
Actual Exam 1 grade	−.053		−.077	
Problem-focused coping potential before Exam 1	.14		.13	
Problem-focused coping potential in the moment	.28 *	.072 *	.27 *	.069 *
Expected Exam 1 grade			*.15*	
DETERMINATION BEFORE EXAM 2	$R^2 = .10$, $F(5, 76) = 1.62$		$R^2 = .29$, $F(6, 75) = 5.10$ ***	
Actual Exam 1 grade	.018		−.20	
Problem-focused coping potential after receiving Exam 1 grades	.017		−.062	
Problem-focused coping potential in the moment	.016		.057	
Expected Exam 2 grade			*.54* ***	.20 ***
DETERMINATION AFTER EXAM 2	$R^2 = .15$, $F(5, 76) = 2.58$ *		$R^2 = .15$, $F(6, 75) = 2.12$	
Actual Exam 2 grade	.27 *	.056 *	.27 *	.052
Problem-focused coping potential before Exam 2	.24		.24	
Problem-focused coping potential in the moment	−.040		−.041	
Expected Exam 2 grade			*.0098*	

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

Table 30. Appraisals, expected grades, and actual grades as predictors of sadness/resignation.

	STEP 1 MODELS		STEP 2 MODELS	
	Regression Coefficient (β)	Effect Size (sr^2)	Regression Coefficient (β)	Effect Size (sr^2)
RESIGNATION AFTER EXAM 1	R^2 = .42, F(5, 75) = 10.91 ***		R^2 = .42, F(6, 74) = 8.98 ***	
Actual Exam 1 grade	−.51 ***	.24 ***	−.51 ***	.23 ***
Problem-focused coping potential before Exam 1	.019		.018	
Problem-focused coping potential in the moment	−.23 *	.048	−.23 *	.048
Expected Exam 1 grade			*.0072*	
RESIGNATON BEFORE EXAM 2	R^2 = .16, F(5, 76) = 2.97 *		R^2 = .17, F(6, 75) = 2.64 ***	
Actual Exam 1 grade	−.029		.023	
Problem-focused coping potential after receiving Exam 1 grades	−.22 *	.043	−.21	
Problem-focused coping potential in the moment	−.24 *	.043	−.22	
Expected Exam 2 grade			*−.13*	
RESIGNATION AFTER EXAM 2	R^2 = .42, F(5, 76) = 10.91 ***		R^2 = .42, F(6, 75) = 9.03 ***	
Actual Exam 2 grade	−.36 ***	.12 **	−.37 ***	.12 **
Problem-focused coping potential before Exam 2	.23 *	.042	.22 *	.035
Problem-focused coping potential in the moment	.51 ***	.19 ***	−.52 ***	.20 ***
Expected Exam 2 grade			*.048*	

* p<.05, ** p<.01, *** p<.001

In terms of predictors of pre-exam emotion, appraisals of low problem-focused coping potential both after receiving Exam 1 grades and then before taking Exam 2 predicted enhanced experiences of sadness/resignation before Exam 2. However, these effects were no longer significant after accounting for expected performance on Exam 2, perhaps due to issues of

collinearity although the correlations between these appraisals and expected performance were relatively small (both *r*s < .34).

Finally, looking at predictors of emotion after receiving Exam 2 grades, appraisals of problem-focused coping potential after Exam 2 did not have a significant effect on experiences of determination in the moment as expected. In contrast, high problem-focused coping potential after receiving Exam 2 grades predicted decreased sadness/resignation at the same time point, which replicates the post-Exam 1 finding. Unexpectedly, high problem-focused coping potential before Exam 2 predicted enhanced sadness/resignation after receiving Exam 2 grades. Participants who received low Exam 2 grades but originally appraised themselves as having high problem-focused coping potential may have felt especially defeated, thus explain this surprising effect on sadness/resignation. However, a post-hoc regression model that included an interaction term for problem-focused coping potential and exam grade ($F(7, 74) = 7.96$, $p < .001$, $R^2 = .43$) did not indicate that pre-Exam 2 problem-focused coping potential interacted with actual Exam 2 grade to affect post-Exam 2 sadness/resignation, perhaps due to the low sample size in this subsample of interest. Taken together, past and present appraisals of problem-focused coping potential predicted pre- and post-Exam 2 sadness/resignation.

Extending beyond appraisal and emotion, I also included actual exam grades in the models to test how the "objective" situation might influence emotional responding. In terms of determination, better performance on Exam 2 predicted an increase in the experience of determination after receiving Exam 2 grades. With sadness/resignation, there was an effect of actual performance following both exams, with poorer grades on Exams 1 and 2 predicting enhanced sadness/resignation after receiving the grades for each respective exam.

Prior coping as predictors of emotional experience. Along with appraisal, I also hypothesized that coping at the previous time point would predict emotional experience at the present time point (Hypotheses 12 and 13). For the models predicting determination after receiving Exam 1 grades, model fit was poor, and none of the coping strategies predicted experiences of determination post-Exam 1. However, in the other models that were of sufficient model fit, I observed that the use of active coping and perseverance after receiving Exam 1 grades predicted the experience of determination before Exam 2 (Table 31). In addition, the use of perseverance as a coping strategy before Exam 2, as well as actual performance on Exam 2, predicted the experience of determination after receiving Exam 2 grades.

In terms of relationships between coping and experiences of sadness/resignation, the regression models indicated that the use of different disengagement-related coping strategies predicted sadness/resignation across time. First, behavioral disengagement (i.e., giving up) before Exam 1 predicted later experiences of sadness/resignation upon receiving Exam 1 grades (Table 32). Then, the use of physical disengagement (i.e., physically getting away or retreating from the situation) after receiving Exam 1 grades predicted sadness/resignation before Exam 2. Finally, the use of self-isolation (i.e., getting away from others) before Exam predicted experiences of sadness/resignation upon receiving Exam 2 grades. Though there were no effects of behavioral disengagement at any of the time points, the models demonstrated that, for both exams, lower actual performance predicted enhanced experiences of sadness/resignation upon receiving exam grades.

Table 31. Coping, expected grades, and actual grades as predictors of determination.

	STEP 1 MODELS		STEP 2 MODELS	
	Regression Coefficient (β)	Effect Size (sr^2)	Regression Coefficient (β)	Effect Size (sr^2)
DETERMINATION AFTER EXAM 1	R^2 = .076, F(5, 75) = 1.24		R^2 = .096, F(7, 73) = 1.11	
Active coping before Exam 1	.13		.098	
Perseverance before Exam 1	.20		.19	
Self-encouragement before Exam 1	−.034		−.065	
Actual Exam 1 grade			*−.0071*	
Expected Exam 1 grade			*−.16*	
DETERMINATION BEFORE EXAM 2	R^2 = .25, F(5, 76) = 4.99 ***		R^2 = .30, F(7, 74) = 4.55	
Active coping after Exam 1	0.56 *	.060 *	0.62 **	.069 *
Perseverance after Exam 1	0.31 *	.070 *	0.34 **	.081 *
Self-encouragement after Exam 1	−0.14		−0.27	
Actual Exam 1 grade			*0.033*	
Expected Exam 1 grade			*0.070*	
DETERMINATION AFTER EXAM 2	R^2 = .15, F(5, 76) = 2.63 *		R^2 = .24, F(7, 74) = 3.36 **	
Active coping before Exam 2	0.31		0.50	
Perseverance before Exam 2	0.39 **	.094 **	0.29 *	.049
Self-encouragement before Exam 2	0.27		0.28	
Actual Exam 2 grade			*0.039 **	*.040*
Expected Exam 2 grade			*−0.011*	

* p<.05, ** p<.01, *** p<.001

Discussion

The overarching goal of Study 3 was to observe the full process of emotion, from appraisal to coping, across two months in a college semester, while also testing the coherence between appraisal, emotion, and coping at specific time points in the semester.

Table 32. Coping, expected grades, and actual grades as predictors of sadness/resignation.

	STEP 1 MODELS		STEP 2 MODELS	
	Regression Coefficient (β)	Effect Size (sr^2)	Regression Coefficient (β)	Effect Size (sr^2)
RESIGNATION AFTER EXAM 1	R^2 = .15, F(5, 75) = 2.72 *		R^2 = .41, F(7, 73) = 7.22 ***	
Beh. disengagement before Exam 1	.25 *	.049	.14	
Phys. disengagement before Exam 1	.024		.031	
Self-isolation before Exam 1	.0081		.088	
Actual Exam 1 grade			*−.54 ******	*.25 ******
Expected Exam 1 grade			*.039*	
RESIGNATION BEFORE EXAM 2	R^2 = .35, F(5, 76) = 8.33 ***		R^2 = .38, F(7, 74) = 6.49 ***	
Beh. disengagement after Exam 1	−.0012		−.017	
Phys. disengagement after Exam 1	.64 ***	.24 ***	.66 ***	.25 ***
Self-isolation after Exam 1	−.085		−.11	
Actual Exam 1 grade			*−.15*	
Expected Exam 1 grade			*−.052*	
RESIGNATION AFTER EXAM 2	R^2 = .16, F(5, 76) = 2.85 *		R^2 = .30, F(7, 74) = 4.50 ***	
Beh. disengagement before Exam 2	.024		−.076	
Phys. disengagement before Exam 2	−.026		.067	
Self-isolation before Exam 2	.38 **	.11 **	.28 *	
Actual Exam 2 grade			*−.38 **	*.11 ***
Expected Exam 2 grade			*−.050*	

* p<.05, ** p<.01, *** p<.001

In this way, the data from Study 3 was analyzed in a cross-sectional as well as a longitudinal manner. Generally, my a priori hypotheses were supported by the data, though there were also unexpected findings that future research should continue to explore.

First, I examined appraisal-emotion relationships prior to each exam. Although the appraisal of future expectancy predicted determination as expected, I did not find evidence that the appraisal of problem-focused coping potential predicted experiences of determination. Based on emotion theory (Kirby et al., 2014) and the findings from Study 1, I expected appraisals of motivational relevance, incongruence, and problem-focused coping potential to correspond with determination. The cohort of students included in the sample were all undergraduates at a prestigious and highly selective university, and the type of students that are accepted and matriculate into such universities are likely very motivated and oriented towards achievement. However, the distribution of appraisal and emotion ratings did not indicate an issue with restricted range. Thus, future research is needed to test the role of problem-focused coping potential in experiences of determination.

Although the appraisal of high problem-focused coping potential did not predict pre-exam experiences of determination as expected, appraisals of low future expectancy and low problem-focused coping potential predicted experiences of sadness/resignation before Exam 1 and somewhat before Exam 2. This finding supports Smith and Lazarus (1993), who proposed that sadness involves the core relational theme of irrevocable loss or helplessness concerning this loss. Appraisals of motivational relevance and incongruence may not have been significant predictors in the regression models due to issues of collinearity.

With regard to the various coping behaviors used prior to exams, experiences of determination were associated with the use of engagement-related coping strategies such as active engagement coping, perseverance, and self-encouragement, especially before Exam 2. A closer consideration revealed that the motivational goal of persevering associated with determination partially mediated these emotion-coping relationships, though these mediation

effects were only marginally significant. In contrast, experiences of sadness/resignation prior to each exam predicted the uses of behavioral disengagement, physical disengagement, and self-isolation to cope with the upcoming exam. Compared to the mediation models for determination, the motivational goal of recovering affiliated with sadness/resignation more strongly mediated the effects of sadness/resignation on the use of the disengagement-related strategies of interest.

Zooming out of specific time points and examining changes in appraisal, emotion, and coping across time, two overall patterns emerge. First, appraisals of high problem-focused coping potential, experiences of determination, and the use of engagement-related coping generally decreased across the two-month period from before Exam 1 to after Exam 2. Second, in light of the decline in appraisals of problem-focused coping potential across time, experiences of sadness/resignation and the use of disengagement-related coping generally increased across the same two-month period. These patterns of appraisal, emotion, and coping were unexpected, though perhaps not wholly surprising given the idea that a person can be "worn down" with time. In other words, school and especially college is often times stressful, and across a semester, the daily stressors related to coursework may gradually wear down students and perhaps exhaust them to the point of using disengagement-related coping strategies because their cognitive load has exceeded some breaking point. Indeed, engagement-related strategies for regulating emotion are more effortful and require more cognitive load compared to disengagement-related regulatory strategies (Sheppes & Meiran, 2008).

Finally, past and present appraisals of problem-focused coping potential, as well as the previous use of coping behaviors, impacted experiences of determination and sadness/resignation in the present moment (or current situation). In particular, the use of active engagement coping and perseverance to cope after receiving Exam 1 grades predicted experiences of determination

when preparing for Exam 2. Moreover, the use of perseverance before Exam 2 predicted determination after receiving Exam 2 grades. With regard to experiences of sadness/resignation, the use of behavioral disengagement to cope before Exam 1 predicted experiences of sadness/resignation after receiving Exam 1 grades, whereas the use of physical disengagement after Exam 1 predicted sadness/resignation before Exam 2. Then, the use of self-isolation before Exam 2 predicted sadness/resignation upon receiving Exam 2 grades. Of these three disengagement-related coping strategies, self-isolation could be considered the most drastic because it involves not only retreating from the situation, but from other people as well. In contrast, behavioral disengagement could be considered the mildest strategy, as it does not necessarily involve getting away from the situation (or people) but rather represents a cognitive disengagement. Thus, across time, there is a shift from the cognitive disengagement-related coping strategy as the only predictor of sadness/resignation after Exam 1 to the most physically isolating disengagement-related strategy being the only predictor of sadness/resignation after Exam 2. To my knowledge, Study 3 is the first study to examine the full emotion process from initial appraisal to emotion and coping, and then to test how coping in this previous emotional experience impacts subsequent emotion.

In summary, Study 3 provided much needed insight on the variety of coping strategies that undergraduate students actually use at any given time point in the semester. Folkman and Lazarus (1985) noted how undergraduate students use both emotion-focused coping and problem-focused coping before and after exams, as well as before and after receiving exam grades. Study 3 extended this work by elaborating on the specific coping strategies used across the semester and how the use of these strategies changed across time and impacted subsequent emotional experience.

CHAPTER V

GENERAL DISCUSSION

The current dissertation uncovered relationships between appraisals and emotions, and then between emotions and coping. Emotion research has become a prominent field of study within psychology, yet the literature has failed to explain how the wide variation and the specificity of emotional experiences influence how individuals respond to and cope with these emotions. The underlying logic behind this dissertation is that unique patterns of appraisal distinguish emotions from one another, and that these emotions then differentially motivate behavior (Smith & Lazarus, 1993). The motivational urges and action tendencies that stem from emotional experiences may differentially prompt certain coping behaviors versus others, due to the motivational goals that are desired during these experiences (Roseman, 2013).

The current dissertation used three different research designs to investigate the full process of emotion—from appraisal and elicitation, to emotional experience and motivation during this experience, to coping responses that eventually trigger another cascade of the emotion process by influencing future appraisals. Study 1 supported the proposed coherence between appraisal, emotion, motivational goals, and coping—thereby demonstrating how various negative and positive emotions can be differentiated on the basis of not only appraisals, but also according to the motivations and coping behaviors that these emotions uniquely prompt. Study 2 expanded upon the findings from Study 1 by manipulating the appraisal of problem-focused coping potential and observing how this experimental manipulation interacts with perceived competence to influence the use of engagement-related coping during a difficult learning task.

Finally, Study 3 observed the relationships between appraisal, emotion, and coping across a two-month period. Emotion theory has described emotion as a continuing process in that past and current appraisals, emotions, and coping likely affect future appraisals, emotions, and coping (Ellsworth, 2013). Yet, to my knowledge, Study 3 is the first piece of empirical evidence demonstrating that past appraisals and the previous use of coping behaviors can influence current emotional experience. Taken together, these studies illuminated the relationships between appraisal, emotion, motivation, and coping—emphasizing the role of cognitive appraisal in emotion and coping.

In general, there were two primary limitations of the current dissertation. First, the sample sizes of Studies 2 and 3 were relatively small (n = 60 and n = 82, respectively) compared to the sample size in Study 1 (n = 346). There was an issue of attrition with Study 3, with 45.33% of initially enrolled participants failing to complete at least one of the surveys across the two-month period. Nonetheless, according to their effect sizes, the findings from Study 2 and 3 represented small but reliable effects.

Second, all three studies heavily relied upon self-report data, with only Study 2 incorporating other behavioral data. Due to the exploratory nature of this dissertation, especially with regard to Study 1, using self-report data was prudent so that I could gain a broad yet deep understanding of the cognitions, motivations, and behaviors associated with a wide variety of emotional experiences. In other words, the benefit of using self-report data is that I could obtain a rich understanding of each participant's subjective experience and then model relationships between appraisal, emotion, and coping. Yet, self-report data is limited in that it relies upon human memory and honesty, and that it can be influenced by stereotyped beliefs about emotion (Parkinson & Manstead, 1993). As noted at the end of Chapter 2, I guarded against priming

participants with stereotyped descriptions of specific emotions in Study 1 by asking them to write about an ambiguous emotional experience (i.e., a harm, threat, benefit, or opportunity). Moreover, a review of the responses to the writing prompt in Study 1 indicated that participants did not have an issue of being honest in their responding, and rather, participants tended to report very personal experiences that extend well beyond the bounds of what is commonly discussed in conversation with loved ones. Nonetheless, future research should use a broader repertoire of behavioral and physiological measures to replicate and extend the findings from this dissertation.

In spite of its shortcomings, the current dissertation succeeded at bridging the gap between emotion and coping, thereby underlining the importance of emotion differentiation and providing a better understanding of emotion as a process. My truest hope is that researchers will use the present findings as a foundation for hypothesis generation as they design future research testing the appraisal and motivational patterns of distinct emotions and how these emotions differentially influence coping.

APPENDIX

Appendix A: Motivational Goals Questionnaire for Study 1

We are interested in how you **wanted** to respond to the experience you just described. Each statement describes something you might have felt like doing **during the experience**. For each, please indicate the extent to which you wanted to do this thing during the original experience.

```
      1------2------3------4------5------6------7------8------9
Not at all                   Moderately                   Extremely
```

I wanted to…

HARM OTHER

1) _____ Physically hurt someone
2) _____ Damage someone else's social standing
3) _____ Hurt someone else emotionally

UNDO SITUATION

4) _____ Undo what was happening
5) _____ Reverse what was going on

PROTECT FROM CONTAMINATION

6) _____ Protect myself from contamination
7) _____ Guard myself from uncleanliness
8) _____ Avoid being dirtied

GET AWAY FROM SITUATION

9) _____ Get away from what was happening
10) _____ Move away from what was going on
11) _____ Remove myself from what was happening

PREVENT THREAT

12) _____ Prevent anything bad from happening
13) _____ Stop anything bad from occurring
14) _____ Minimize the chances of anything bad happening

GET TO SAFETY

15) _____ Get to safety
16) _____ Secure my surroundings
17) _____ Find security

MAKE AMENDS

18) _____ Make amends
19) _____ Compensate for what had happened
20) _____ Make things right

RECOVER

21) _____ Recover
22) _____ Take a break from what was going on
23) _____ Take time to rest

GET AWAY FROM OTHERS

24) _____ Get away from everybody
25) _____ Hide from the world
26) _____ Avoid all other people

BE CLOSE TO OTHER

27) _____ Be close to someone else
28) _____ Interact with another person
29) _____ Seek companionship

ACKNOWLEDGE

30) _____ Recognize what was going on
31) _____ Be aware of what was happening
32) _____ Recognize the situation for what it was
33) _____ Accept what was happening

ASSIMILATE

34) _____ Adapt to what was happening
35) _____ Adjust to what was going on

HELP OTHER

36) _____ Help someone else
37) _____ Do something for the benefit of others

PERSEVERE

38) _____ Persevere
39) _____ Persist through what was going on

RECOGNIZE OTHER

40) _____ Appreciate someone else
41) _____ Give someone else praise
42) _____ Give someone else recognition

SUSTAIN

43) _____ Sustain what was going on
44) _____ Keep things the way they were
45) _____ Have things continue to be this way

HAVE HAPPEN

46) _____ Have the situation turn out how I wanted
47) _____ See what I desired happen
48) _____ Focus on my ideal situation

SEEK INFORMATION

49) _____ Get more information
50) _____ Find out more
51) _____ Gather more details

RECOGNIZE SELF

52) _____ Celebrate my accomplishments
53) _____ Be acknowledged for my success

SAVOR

54) _____ Savor the moment
55) _____ Enjoy what was going on
56) _____ Take in what was going on

Appendix B: Modified COPE for Study 1

We are interested in how you **actually** responded to the experience you just described. Each statement describes something you might have done **during the experience**. For each, please indicate the extent to which you actually did this thing during the original experience.

```
 1-----------------------2-----------------------3-----------------------4
I didn't do           I did this             I did this a          I did this
this at all         a little bit             medium amount           a lot
```

ACCEPTANCE

1) _____ I accepted that this had happened and couldn't be changed.
2) _____ I accepted the reality of the fact that it had happened.
3) _____ I learned to live with it.

ACTIVE COPING

4) _____ I took additional action.
5) _____ I took direct action to address the situation.

BEHAVIORAL DISENGAGEMENT

6) _____ I admitted to myself that I couldn't deal with it, and quit trying.
7) _____ I gave up trying to reach my goal.
8) _____ I gave up the attempt to get what I wanted.

DENIAL

9) _____ I refused to believe that it had happened.
10) _____ I pretended that it hadn't really happened.
11) _____ I acted as though it hadn't even happened.

EMOTIONAL EXPRESSION

12) _____ I found myself expressing my feelings a lot.
13) _____ I let out my feelings.
14) _____ I let my emotions out.

HELPING

15) _____ I did something for someone else.
16) _____ I tried to do something for someone else's benefit.

INFORMATION SEEKING

17) _____ I tried to find out more about the situation.
18) _____ I sought out more information.

PERSEVERANCE

19) _____ I kept working toward my goal.
20) _____ I refused to give up.
21) _____ I pushed forward.

PHYSICAL DISENGAGEMENT

22) _____ I got away from the situation.
23) _____ I physically removed myself from the situation.
24) _____ I physically separated myself from what was happening.

PLANNING

25) _____ I made a plan of action.
26) _____ I tried to come up with a strategy about what to do.
27) _____ I thought about what steps to take next.

REPRIORITIZATION/MINIMIZATION

28) _____ I told myself that it wasn't that big of a deal.
29) _____ I told myself that other things were more important to me.
30) _____ I told myself that it didn't matter that much to me.

RUMINATION/COGNITIVE FOCUS

31) _____ I kept thinking about the situation.
32) _____ I kept analyzing the situation.
33) _____ I kept replaying the situation in my mind.

SAVORING

34) _____ I tried to savor what was going on.
35) _____ I tried to maximize how I was feeling.
36) _____ I tried to enjoy the moment.

SOCIAL SUPPORT

37) _____ I discussed my feelings with someone else.
38) _____ I talked to someone about how I felt.
39) _____ I talked to someone about what had happened.
40) _____ I talked to someone about what I had done.

TAKING ACCOUNTABILITY

41) _____ I held myself accountable for what had happened.
42) _____ I thought about how I was responsible for the situation.

SELF-ENCOURAGEMENT

43) _____ I told myself I could handle it.
44) _____ I told myself I could deal with it.

SELF-ISOLATION

45) _____ I avoided being with people in general.
46) _____ I got as far away from other people as I could.

SELF-RESTRAINT

47) _____ I restrained myself from doing anything too quickly.
48) _____ I held off doing anything about it until the situation was right.
49) _____ I forced myself to wait for the right time to do something.

SUPPRESSION

50) _____ I suppressed my feelings.
51) _____ I tried to push my feelings away.
52) _____ I buried my feelings deep inside.

SUSTAINING

53) _____ I tried to keep things the way they were.
54) _____ I did my best to maintain what was going on.
55) _____ I tried to sustain what was going on.

TURNING TO RELIGION

56) _____ I put my trust in God.
57) _____ I sought God's help.
58) _____ I tried to find comfort in my religion.

UNDERSTANDING

59) _____ I tried to understand what was going on.
60) _____ I did my best to make sense of what was happening.
61) _____ I tried to gain a better understanding of the situation.

USING HUMOR

62) _____ I made jokes about it.
63) _____ I kidded around about it.

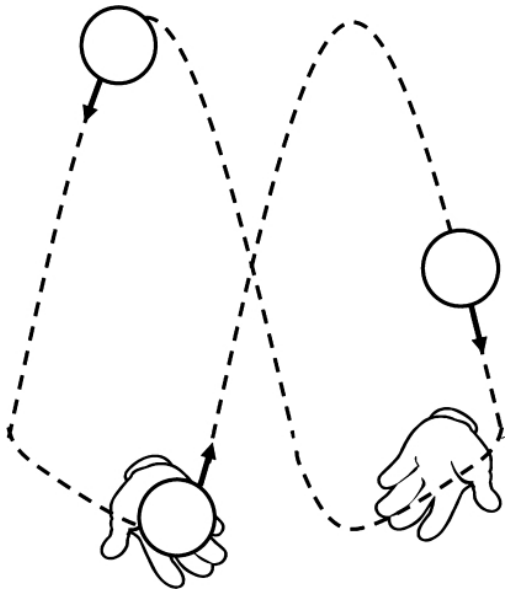
USING DRUGS

64) _____ I tried to lose myself for awhile by using drugs or alcohol.
65) _____ I drank alcohol or used drugs in order to think about it less.
66) _____ I used alcohol or drugs to help me get through it.

WISHFUL THINKING

67) _____ I wished that I could change the way that things were going.
68) _____ I wished the situation would somehow be how I wanted.

Appendix C: Juggling Tip Sheet for Study 2



One Ball

- First try practicing with one ball
- Throw the ball in an arc (not a semicircle) from one hand to the other hand
- Each throw should cross your heart/chest and peak just below eye level, near your shoulder on the side of your body where you are going to catch it
- Focus on throwing, rather than catching

Two Balls

- Before moving on to using three balls, practice with two balls
- Throw the "next" ball when the ball in the air has reached its highest point in the arc, and starts to fall toward the hand holding the "next" ball
- Again, focus on throwing in an arc to the same height as the first throw, with each throw crossing your chest and peaking at just below eye level, near the shoulder on the side where you are going to catch it
- Focus on throwing rather than trying to catch the balls
- Alternate starting with each hand

Three Balls

- Hold two balls in one hand, and one ball in the other hand
- Focus on throwing the ball when the ball in the air has reached its highest point
- Concentrate on throwing, rather than catching
- Remember to throw the balls in an arc, allowing the arc to cross your chest and peak just below eye level near your shoulder on the side you are going to catch that ball
- If you're moving forward as you juggle, stand in front of a wall or a table to keep yourself from moving forward

Appendix D: Pre-Learning Task Appraisal Questionnaire for Study 2

We would like to ask you some questions about your thoughts and feelings right now. Please use the 9-point scale depicted for each item. Indicate your ratings by selecting the appropriate number (1 to 9).

1) How important is this situation to you?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

2) To what extent are there positive aspects to this situation – things that you **do want**, or are pleased about?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

3) To what extent do you consider **yourself** to be responsible for this situation?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

4) To what extent do you consider **someone** or **something else** to be responsible for this situation?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

5) Think about what you want and don't want in this situation. How certain are you that you will be able to influence things to make (or keep) the situation the way you want it?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
 Completely                 Completely                  Completely
certain WOULD               uncertain                 certain WOULD
 NOT be able                                             be able
```

6) How certain are you that you will, or will not, be able to deal emotionally with what is happening in this situation, however it turns out?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
 Completely                 Completely                  Completely
certain WOULD               uncertain                 certain WOULD
 NOT be able                                             be able
```

7) Think about how you want this situation to turn out. How consistent with these wishes (for any reason) do you expect this situation to become (or stay)?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

8) Do you think that this situation is socially acceptable?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

9) Do you think that action is urgently required?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

10) To what degree do you think that this situation exposes a positive aspect of yourself to others?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

11) To what degree do you think that this situation exposes a negative aspect of yourself to others?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

12) To what extent does this situation involve the attainment or fulfillment of something that you want?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

13) To what extent does this situation involve the unknown?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

14) How much is this situation in line with your expectations?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

15) To what extent does this situation involve something greater than you?

```
       1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                    Moderately                    Extremely
```

Appendix E: Pre-Learning Task Motivational Goals Questionnaire for Study 2

We are interested in how you **want** to respond to the upcoming learning task. Each statement describes something you might feel like doing. For each, please indicate the extent to which you wanted to do this thing.

```
      1------2------3------4------5------6------7------8------9
Not at all                   Moderately                   Extremely
```

I want to…

HARM OTHER

1) _____ Physically hurt someone
2) _____ Damage someone else's social standing
3) _____ Hurt someone else emotionally

UNDO SITUATION

4) _____ Undo what is happening
5) _____ Reverse what is going on

PROTECT FROM CONTAMINATION

6) _____ Protect myself from contamination
7) _____ Guard myself from uncleanliness
8) _____ Avoid being dirtied

GET AWAY FROM SITUATION

9) _____ Get away from what is happening
10) _____ Move away from what is going on
11) _____ Remove myself from what is happening

PREVENT THREAT

12) _____ Prevent anything bad from happening
13) _____ Stop anything bad from occurring
14) _____ Minimize the chances of anything bad happening

GET TO SAFETY

15) _____ Get to safety
16) _____ Secure my surroundings
17) _____ Find security

MAKE AMENDS

18) _____ Make amends
19) _____ Compensate for what is happening
20) _____ Make things right

RECOVER

21) _____ Recover
22) _____ Take a break from what is going on
23) _____ Take time to rest

GET AWAY FROM OTHERS

24) _____ Get away from everybody
25) _____ Hide from the world
26) _____ Avoid all other people

BE CLOSE TO OTHER

27) _____ Be close to someone else
28) _____ Interact with another person
29) _____ Seek companionship

ACKNOWLEDGE

30) _____ Recognize what is going on
31) _____ Be aware of what is happening
32) _____ Recognize the situation for what it is
33) _____ Accept what is happening

ASSIMILATE

34) _____ Adapt to what is happening
35) _____ Adjust to what is going on

HELP OTHER

36) _____ Help someone else
37) _____ Do something for the benefit of others

PERSEVERE

38) _____ Persevere
39) _____ Persist through what is going on

RECOGNIZE OTHER

40) _____ Appreciate someone else
41) _____ Give someone else praise
42) _____ Give someone else recognition

SUSTAIN

43) _____ Sustain what is going on
44) _____ Keep things the way they are
45) _____ Have things continue to be this way

HAVE HAPPEN

46) _____ Have the situation turn out how I want
47) _____ See what I desire happen
48) _____ Focus on my ideal situation

SEEK INFORMATION

49) _____ Get more information
50) _____ Find out more
51) _____ Gather more details

RECOGNIZE SELF

52) _____ Celebrate my accomplishments
53) _____ Be acknowledged for my success

SAVOR

54) _____ Savor the moment
55) _____ Enjoy what is going on
56) _____ Take in what is going on

Appendix F: Post-Learning Task Coping Questionnaire for Study 2

We are interested in what you **actually** did during the task. Each statement describes something you might have been doing. For each, please indicate the extent to which you did this during the task.

```
 1-----------------------2-----------------------3-----------------------4
I didn't do           I did this             I did this a          I did this
this at all         a little bit             medium amount           a lot
```

ACCEPTANCE

1) _____ I accepted that this was happening.
2) _____ I accepted the reality of the situation.

ACTIVE COPING

3) _____ I took action to master juggling.
4) _____ I took direct action to try and do my best.

DISENGAGEMENT

5) _____ I admitted to myself that I couldn't do this.
6) _____ I gave up on trying to learn.

DISTRACTION

7) _____ I did something unrelated to juggling to think about the situation less.
8) _____ I did something unrelated to take my mind off what was going on.

EMOTIONAL EXPRESSION

9) _____ I let my emotions out.
10) _____ I expressed my feelings a lot.

EMOTIONAL FOCUS

11) _____ I was focused on my emotions.
12) _____ I paid attention to how I was feeling.

INFORMATION SEEKING

13) _____ I tried to find out more about how to juggle.
14) _____ I sought out more information on learning how to juggle.

PERSEVERANCE

15) _____ I kept working towards mastering juggling.
16) _____ I refused to give up.
17) _____ I kept trying to learn how to juggle.

PLANNING

18) _____ I made a plan for how I was going to learn.
19) _____ I tried to come up with a strategy for learning.
20) _____ I thought about what steps to take.

PROBLEM-FOCUSED COPING

21) _____ I referenced the tip sheet for guidance.
22) _____ I watched the video to try to learn.
23) _____ I used the balls to practice the different steps of juggling.

REPRIORITIZATION/MINIMIZATION

24) _____ I told myself that mastering juggling wasn't that big of a deal.
25) _____ I told myself that other things were more important to me than learning how to juggle.
26) _____ I told myself that mastering juggling didn't matter that much to me.

RUMINATION/COGNITIVE FOCUS

27) _____ I kept thinking about the upcoming evaluation.
28) _____ I kept analyzing the situation.

SAVORING

29) _____ I tried to savor what was going on.
30) _____ I tried to maximize how I was feeling.
31) _____ I tried to enjoy the moment.

TAKING ACCOUNTABILITY

32) _____ I held myself accountable for how things were going.
33) _____ I thought about how I would be the one responsible for my progress.

SELF-ENCOURAGEMENT

34) _____ I told myself I could do this.
35) _____ I told myself I could deal with the situation.

STOICISM

36) _____ I tried to keep my feelings to myself.
37) _____ I tried keeping others from knowing how I felt.

SUSTAINING

38) _____ I tried to keep things the way they are.
39) _____ I tried to do my best to maintain what was going on.
40) _____ I tried to sustain what was going on.

SUPPRESSION

41) _____ I tried to push my feelings away.
42) _____ I buried my feelings deep inside.
43) _____ I suppressed my feelings.

TURNING TO RELIGION

44) _____ I put my trust in God.
45) _____ I sought God's help.
46) _____ I tried to find comfort in my religion.

UNDERSTANDING

47) _____ I tried to understand how to juggle.
48) _____ I tried my best to make sense of how to juggle.

USING HUMOR

49) _____ I made jokes about the situation.
50) _____ I laughed at what was going on.

Appendix G: Personality Measures for Study 2

Grit Scale: Here are a number of statements that may or may not apply to you. For the most accurate score, when responding, think of how you compare to most people -- not just the people you know well, but most people in the world. There are no right or wrong answers, so just answer honestly!

1	2	3	4	5
Not like me at all	Not much like me	Somewhat like me	Mostly like me	Very much like me

1) New ideas and projects sometimes distract from previous ones.
2) Setbacks don't discourage me.
3) I have been obsessed with a certain idea or project for a short time but later lost interest.
4) I am a hard worker.
5) I often set a goal but later choose to pursue a different one.
6) I have difficulty maintaining my focus on projects that take more than a few months to complete.
7) I finish whatever I begin.
8) I am diligent.

Life Orientation Test: Please answer the following questions about yourself by indicating the extent of your agreement using the scale.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly agree

1) In uncertain times, I usually expect the best.
2) It's easy for me to relax.
3) If something can go wrong for me, it will.
4) I'm always optimistic about my future.
5) I enjoy my friends a lot.
6) It's important for me to keep busy.
7) I hardly ever expect things to go my way.
8) I don't get upset too easily.
9) I rarely count on good things happening to me.
10) Overall, I expect more good things to happen to me than bad.

Rosenberg Self Esteem: Below is a list of statements dealing with your general feelings about yourself. Please indicate your extent of agreement using the provided scale.

```
    1----------------------2----------------------3----------------------4
Strongly                Disagree                Agree                Strongly
disagree                                                              agree
```

1) On the whole, I am satisfied with myself.
2) At times, I think I am no good at all.
3) I feel that I have a number of good qualities.
4) I am able to do things as well as most other people.
5) I feel I do not have much to be proud of.
6) I certainly feel useless at times.
7) I feel that I'm a person of worth, at least on an equal plane with others.
8) I wish I could have more respect for myself.
9) All in all, I am inclined to feel that I am a failure.
10) I take a positive attitude toward myself.

Modified Athletic Items from Self-Perception Profile for College Students: Below is a list of statements dealing with your general feelings about yourself. Please indicate your extent of agreement using the provided scale.

```
    1----------------------2----------------------3----------------------4
Strongly                Disagree                Agree                Strongly
disagree                                                              agree
```

1) I feel I could do well at just about any new physical activity.
2) I don't feel that I am very athletic or physically skilled.
3) I feel that I am better than others at sports or physical activities.
4) I am good at activities requiring physical skill.

Appendix H: Pre-Exam Appraisal Questionnaire for Study 3

We would like to ask you some questions about your thoughts and feelings right now regarding the upcoming exam in Introduction to Psychology. Please use the 9-point scale depicted for each item. Indicate your ratings by selecting the appropriate number (1 to 9).

1) How important is the upcoming exam to you?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

2) To what extent are there positive aspects to the upcoming exam – things that you **do want**, or are pleased about?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

3) To what extent do you consider **yourself** to be responsible for this situation?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

4) To what extent do you consider **someone** or **something else** to be responsible for this situation?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

5) Think about what you want and don't want in this situation. How certain are you that you will be able to influence things to make (or keep) the situation the way you want it?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
 Completely                 Completely                  Completely
certain WOULD               uncertain                 certain WOULD
 NOT be able                                             be able
```

6) How certain are you that you will, or will not, be able to deal emotionally with what is happening in this situation, however it turns out?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
 Completely                 Completely                  Completely
certain WOULD               uncertain                 certain WOULD
 NOT be able                                             be able
```

7) Think about how you want this situation to turn out. How consistent with these wishes (for any reason) do you expect this situation to become (or stay)?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

8) Do you think that action is urgently required?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

9) To what degree do you think that the upcoming exam exposes a positive aspect of yourself to others?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

10) To what degree do you think that the upcoming exam exposes a negative aspect of yourself to others?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

11) To what extent does this situation involve the attainment or fulfillment of something that you want?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

12) To what extent does this situation involve the unknown?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

13) How much is this situation in line with your expectations?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

14) To what extent does this situation involve something greater than you?

```
      1 ---- 2 ---- 3 ---- 4 ---- 5 ---- 6 ---- 7 ---- 8 ---- 9
Not at all                  Moderately                  Extremely
```

Appendix I: Pre-Exam Modified COPE for Study 3

We are interested in how you are **actually** responding to the upcoming exam. Each statement describes something you might be doing. For each, please indicate the extent to which you are actually doing this in response to the upcoming exam.

```
 1------------------------2------------------------3------------------------4
I didn't do           I did this             I did this a          I did this
this at all         a little bit             medium amount           a lot
```

ACCEPTANCE

1) _____ I am accepting that the upcoming exam is happening and can't be changed.
2) _____ I am accepting the reality of the upcoming exam.
3) _____ I am learning to live with it.

ACTIVE COPING

4) _____ I am taking additional action.
5) _____ I am taking direct action to address the upcoming exam.

BEHAVIORAL DISENGAGEMENT

6) _____ I am admitting to myself that I can't deal with the upcoming exam, and quit trying.
7) _____ I am giving up on trying to reach my goal.
8) _____ I am giving up the attempt to get what I want.

DENIAL

9) _____ I am refusing to believe that the upcoming exam is happening.
10) _____ I am pretending that the upcoming exam isn't really happening.
11) _____ I am acting as though the upcoming exam isn't even happening.

EMOTIONAL EXPRESSION

12) _____ I am finding myself expressing my feelings a lot.
13) _____ I am letting out my feelings.

HELPING

14) _____ I am doing something for someone else.
15) _____ I am trying to do something for someone else's benefit.

INFORMATION SEEKING

16) _____ I am trying to find out more about the upcoming exam.
17) _____ I am seeking out more information.

PERSEVERANCE

18) _____ I keep working toward my goal.
19) _____ I am refusing to give up.
20) _____ I am pushing forward.

PHYSICAL DISENGAGEMENT

21) _____ I am getting away from the situation.
22) _____ I am physically removing myself from the situation.
23) _____ I am physically separating myself from what is happening.

PLANNING

24) _____ I am making a plan of action.
25) _____ I am trying to come up with a strategy about what to do.
26) _____ I am thinking about what steps to take next.

REPRIORITIZATION/MINIMIZATION

27) _____ I am telling myself that the upcoming exam isn't that big of a deal.
28) _____ I am telling myself that other things are more important to me than the upcoming exam.
29) _____ I am telling myself that the upcoming exam doesn't matter that much to me.

RUMINATION/COGNITIVE FOCUS

30) _____ I keep thinking about the upcoming exam.
31) _____ I keep analyzing the situation.
32) _____ I keep playing the situation in my mind.

SAVORING

33) _____ I am trying to savor what is going on.
34) _____ I am trying to maximize how I am feeling.
35) _____ I am trying to enjoy the moment.

SOCIAL SUPPORT

36) _____ I am discussing my feelings with someone else.
37) _____ I am talking to someone about how I feel.
38) _____ I am talking to someone about the situation.

TAKING ACCOUNTABILITY

39) _____ I am holding myself accountable for how things are going.
40) _____ I am thinking about how I am the one responsible for the upcoming exam.

SELF-ENCOURAGEMENT

41) _____ I am telling myself I can handle the upcoming exam.
42) _____ I am telling myself I can deal with the upcoming exam.

SELF-ISOLATION

43) _____ I am avoiding being with people in general.
44) _____ I am getting as far away from other people as I can.

SELF-RESTRAINT

45) _____ I am restraining myself from doing anything too quickly.
46) _____ I am holding off on doing anything about it until the situation is right.
47) _____ I am forcing myself to wait for the right time to do something.

STOICISM

48) _____ I am trying to keep my feelings to myself
49) _____ I am keeping others from knowing what is going on.

SUPPRESSION

50) _____ I am suppressing my feelings.
51) _____ I am trying to push my feelings away.
52) _____ I am burying my feelings deep inside.

SUSTAINING

53) _____ I am trying to keep things the way they are.
54) _____ I am doing my best to maintain what is going on.
55) _____ I am trying to sustain what is going on.

TURNING TO RELIGION

56) _____ I am putting my trust in God.
57) _____ I am seeking God's help.
58) _____ I am trying to find comfort in my religion.

UNDERSTANDING

59) _____ I am trying to understand what is going on.
60) _____ I am doing my best to make sense of the upcoming exam.
61) _____ I am trying to gain a better understanding of the upcoming exam.

USING HUMOR

62) _____ I am making jokes about the upcoming exam.
63) _____ I am kidding around about the situation.

USING DRUGS

64) _____ I am trying to lose myself for awhile by using drugs or alcohol.
65) _____ I am drinking alcohol or using drugs in order to think about the upcoming exam less.
66) _____ I am using alcohol or drugs to help me get through it.

WISHFUL THINKING

67) _____ I am wishing that I could change the way that things are going.
68) _____ I am wishing the situation would somehow be how I want.

Appendix J: Post-Exam Modified COPE for Study 3

We are interested in how you are **actually** responding to the last exam that you took in Introduction to Psychology, including how you are responding to the grade that you received. Each statement describes something you might be doing. For each, please indicate the extent to which you are actually doing this in response to the upcoming exam.

```
 1----------------------2----------------------3----------------------4
I didn't do          I did this            I did this a          I did this
this at all        a little bit            medium amount           a lot
```

ACCEPTANCE

1) _____ I am accepting that it happened and can't be changed.
2) _____ I am accepting the reality of the situation.
3) _____ I am learning to live with the situation.

ACTIVE COPING

4) _____ I am taking additional action.
5) _____ I am taking direct action to address the situation.

BEHAVIORAL DISENGAGEMENT

6) _____ I am admitting to myself that I can't deal with the situation, and quit trying.
7) _____ I am giving up on trying to reach my goal.
8) _____ I am giving up the attempt to get what I want.

DENIAL

9) _____ I am refusing to believe that it happened.
10) _____ I am pretending that it isn't really happening.
11) _____ I am acting as though the situation isn't even happening

EMOTIONAL EXPRESSION

12) _____ I am finding myself expressing my feelings a lot.
13) _____ I am letting out my feelings.

HELPING

14) _____ I am doing something for someone else.
15) _____ I am trying to do something for someone else's benefit.

INFORMATION SEEKING

16) _____ I am trying to find out more about the exam.
17) _____ I am seeking out more information.

PERSEVERANCE

18) _____ I keep working toward my goal.
19) _____ I am refusing to give up.
20) _____ I am pushing forward.

PHYSICAL DISENGAGEMENT

21) _____ I am getting away from the situation.
22) _____ I am physically removing myself from the situation.
23) _____ I am physically separating myself from what is happening.

PLANNING

24) _____ I am making a plan of action.
25) _____ I am trying to come up with a strategy about what to do.
26) _____ I am thinking about what steps to take next.

REPRIORITIZATION/MINIMIZATION

27) _____ I am telling myself that the exam isn't that big of a deal.
28) _____ I am telling myself that other things are more important to me than the exam.
29) _____ I am telling myself that the exam doesn't matter that much to me.

RUMINATION/COGNITIVE FOCUS

30) _____ I keep thinking about the exam.
31) _____ I keep analyzing the situation.
32) _____ I keep replaying the situation in my mind.

SAVORING

33) _____ I am trying to savor what is going on.
34) _____ I am trying to maximize how I am feeling.
35) _____ I am trying to enjoy the moment.

SOCIAL SUPPORT

36) _____ I am discussing my feelings with someone else.
37) _____ I am talking to someone about how I feel.
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TAKING ACCOUNTABILITY

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44) _____ I am getting as far away from other people as I can.

SELF-RESTRAINT

45) _____ I am restraining myself from doing anything too quickly.
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STOICISM

48) _____ I am trying to keep my feelings to myself.
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58) _____ I am trying to find comfort in my religion.

UNDERSTANDING

59) _____ I am trying to understand what is going on.
60) _____ I am doing my best to make sense of the exam.
61) _____ I am trying to gain a better understanding of the situation.

USING HUMOR

62) _____ I am making jokes about the exam.
63) _____ I am kidding around about the exam.

DRUG USE

64) _____ I am trying to lose myself for awhile by using drugs or alcohol.
65) _____ I am drinking alcohol or using drugs in order to think about it less.
66) _____ I am using alcohol or drugs to help me get through it.

WISHFUL THINKING

67) _____ I am wishing that I could change the way that things are going.
68) _____ I am wishing the situation would somehow be how I want.

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