St. John's University

St. John's Scholar

2022

EMOTION BELIEFS AND ATTITUDES: IMPLICATIONS FOR THE STOIC VIEW OF EMOTIONS AND A TEST OF SOME THEORIES OF PSYCHOTHERAPY

Amanda M. Fisher

EMOTION BELIEFS AND ATTITUDES: IMPLICATIONS FOR THE STOIC VIEW

OF EMOTIONS AND A TEST OF SOME THEORIES OF PSYCHOTHERAPY

A dissertation submitted in partial fulfillment

of the requirements for the degree of

DOCTOR OF PHILOSOPHY

to the faculty of the

DEPARTMENT OF PSYCHOLOGY

of

ST. JOHN'S COLLEGE OF LIBERAL ARTS AND SCIENCES

at

ST. JOHN'S UNIVERSITY

New York

by

Amanda M. Fisher

Date submitted _____   Date approved _____

_____   _____

Amanda Fisher   Raymond DiGiuseppe, Ph.D.

ABSTRACT

EMOTION BELIEFS AND ATTITUDES: IMPLICATIONS FOR THE STOIC VIEW

OF EMOTIONS AND A TEST OF SOME THEORIES OF PSYCHOTHERAPY

Amanda M. Fisher

Traditional CBT and third-wave CBT, namely ACT, are widely used psychotherapy approaches. These psychotherapies have distinct philosophical and theoretical roots and, in turn, emphasize divergent approaches to emotions. The current study explored beliefs about emotions (emotion beliefs) associated with both approaches to psychotherapy, the relationship between emotion beliefs and emotion outcomes, as well as factors that mediate these relationships. Specifically, the study examined correlations between emotion beliefs (emotion controllability beliefs, acceptance of emotions, and emotion control values) and depression, anxiety, and anger. Correlation coefficients were compared to determine significant differences in associations between different emotion beliefs and emotion outcomes. It also examined whether emotion beliefs predicted depression, anxiety, and anger. Finally, this study investigated if emotion beliefs impacted depression, anxiety, and anger through different emotion regulation mechanisms (cognitive reappraisal and expressive suppression).

Participants were undergraduate university students and adults in the general population, who completed a series of questionnaires through an online survey platform. Results demonstrated significant negative correlations between malleable emotion controllability beliefs and negative emotion outcomes and nonjudgmental attitudes about emotions and negative emotion outcomes. Emotion control values were not associated

with negative emotion outcomes. Emotion controllability beliefs and nonjudgmental attitudes predicted all negative emotion outcomes examined in the present study, whereas emotion control values only predicted anxiety. The effect of emotion beliefs on depression and anxiety were partially mediated by cognitive reappraisal, but not expressive suppression. The effect of emotion beliefs on anger was not mediated by cognitive reappraisal. Limitations, future research, and implications for interventions are discussed.

ACKNOWLEDGMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

Stoic philosophy was designed to be practical by helping people lead a meaningful life (Pigliucci, 2017). The Stoic philosophers postulated that individuals could live a good life by cultivating good character and concern for others and nature. Moreover, the good life entails some distinguishing features of humans, most importantly the ability to reason (Murguia & Diaz, 2015). The Stoics indicated that a rational disposition is humans' default mode and is within an individual's control, in that everyone can act according to it. Externals termed "unnecessaries" are outside of individual's control and are not necessary for a good life.

The Stoics posited that emotions are, in essence, judgments about the present or potential future situations (Graver, 2007). Because humans are reasoning beings, humans are accountable for their emotions, even if they are not aware of their underlying judgments. The Stoics claimed that certain emotions imply false judgments and that we should seek to modulate these emotions, as they can hinder ethical behavior and well-being. Stoic philosophy posits that people should distinguish between what they can and cannot control when faced with emotional disturbance. When people cannot change an external situation, they should redirect emotions by reasoning. According to the Stoics, reason plays a central role in well-being because optimal living necessitates acting in line with humans' rational nature (Murguia & Diaz, 2015). By reasoning, humans can make sense of their environments.

Stoic philosophy has influenced the development of cognitive-behavioral therapies, in particular, Ellis' Rational Emotive Behavior Therapy (REBT; Robertson, 2010). One Stoic tenet that became central to REBT is that individuals' beliefs about

situations shape their psychological states (Murguia & Diaz, 2015). REBT posits that irrational thinking determines emotional disturbance (DiGiuseppe et al., 2014). According to REBT, people can change their dysfunctional emotions by analyzing and changing their irrational thinking. Other Stoic ideas that influenced the development of REBT are the dichotomy of control and the concept of emotional and behavioral responsibility. REBT encourages individuals to accept responsibility for their thoughts, emotions, and behaviors. REBT offers strategies, including endorsing rational beliefs, to help people effectively control their dysfunctional emotions.

Although Stoic philosophers do not support eradicating all emotions, Stoics value reason over emotion to pursue well-being and virtue. The Sentimentalists offered a divergent philosophy that suggested that emotions, if properly channeled and morally grounded, can be instrumental to human progress (TenHouten, 2019). The Sentimentalists concluded that moral judgments and social behavior are determined by emotions, not reason, but such judgments should also be subject to revision upon reflection. The Sentimentalist's philosophy of emotions aligns with modern psychology research related to acceptance, mindfulness, and Eastern philosophy (Ford et al., 2017). This body of research posits that adopting an accepting approach towards one's emotional experiences supports psychological well-being and suggests that acceptance of negative emotions increases behaviors that help achieve our values and goals, and in the end, reduce negative emotions.

Eastern philosophical traditions have influenced the development of third-wave CBT approaches, including Acceptance and Commitment Therapy (ACT; Shah, 2020). ACT posits that emotional disturbance results from evaluative judgments that some

emotions are unacceptable (Hayes et al., 1999; Predatu et al., 2020). REBT would posit that non-acceptance would worsen emotional disturbances. Ellis posited that people could have irrational beliefs about internal experiences that would, in turn, exacerbate those emotions (DiGiuseppe et al., 2014). ACT and REBT specify that the nonacceptance of some emotions leads people to suppress or avoid emotions. ACT would say that suppression and experiential avoidance might reduce negative emotions temporarily but lead to amplification of negative emotions in the long-term. ACT encourages individuals to be mindful of their emotions, accept them nonjudgmentally, and let them run their natural course (vs. trying to control them). REBT would recommend that people can retain the preference that they not have negative emotions but accept that they do experience the negative disturbed emotions.

In sum, REBT and ACT both aim to reduce emotional disturbance and promote constructive acceptance. However, they do so in different ways. REBT guides individuals to evaluate and change their irrational beliefs (that is give up the demand and replace it with a preference), while ACT emphasizes not changing beliefs and accepting the emotions in a nonjudgmental way (Matweychuk et al., 2019). REBT underscores controlling emotional responses, whereas the non-control of emotional responses is fundamental to ACT (Predatu et al., 2020). REBT and ACT are grounded in different philosophies of emotions, and there is limited research examining these emotion beliefs and their relationships to emotion regulation and emotional experiences.

Recently, researchers have become interested in empirically testing such longstanding questions about how people can best approach their emotions. Specifically, there has been interest in examining a wide range of beliefs that individuals hold about

their own emotions (emotion beliefs) in the social, personality, and clinical psychology

research literatures. Individuals' emotion beliefs might influence how effectively they

can regulate their emotions (Ford & Gross, 2018). The extended process model of

emotion regulation posits that beliefs about emotions impact an early stage of emotion

regulation during which individuals determine whether they will engage in emotion

regulation (Sheppes et al., 2015). This stage involves the detection of an emotion, an

evaluation of whether the experience requires regulation, and a decision to regulate an

emotion. Sheppes and colleagues (2015) hypothesize that emotion beliefs and attitudes

determine negative or positive evaluations of a regulated state and, consequently, the

decision to actively regulate emotions. Therefore, individuals' emotion beliefs have

implications for what emotion regulation strategies are selected, the implementation of

emotion regulation strategies, and the success of emotion regulation efforts (Goodman et

al., 2020). Research supports that the habitual use of specific emotion regulation

strategies might be adaptive or maladaptive, as some strategies have been associated with

psychological health and others are associated with psychological distress (Wilson,

2019). Proactive, approach-oriented emotion regulation strategies (e.g., cognitive

reappraisal and problem-solving) have been associated with more positive psychological

health, whereas disengagement to regulate emotions (e.g., expressive suppression and

situational avoidance) have been associated with increased mental health problems

(Herman-Stahl et al., 1995; De France & Evans, 2020). Emotion beliefs might therefore

have implications for psychological well-being and psychopathology. This study aims to

empirically test relationships between emotion regulation and emotion beliefs grounded

in Stoic philosophy and Eastern philosophies that shape modern psychotherapy approaches. Emotion beliefs are a potential target for clinical interventions.

Ford and Gross (2018) offer a framework for conceptualizing emotion beliefs by categorizing emotion beliefs in two superordinate categories: (1) beliefs about whether emotions are controllable or uncontrollable (emotion controllability beliefs) and (2) beliefs concerning whether emotions are good or bad (emotion values). They posit that emotion beliefs can be general but vary across several subordinate features (e.g., specific emotions, specific emotion intensities, specific emotion channels, specific contexts, specific time courses, and specific targets). This theoretical framework presumes that emotion controllability beliefs and emotion values are conceptually orthogonal. In the psychology literature, beliefs about controllability and goodness (e.g., evaluative judgments) of emotions have been studied and considered separately (Ford & Gross, 2019). Beliefs about the value of controlling emotions (emotion control values) is another superordinate category of emotion beliefs that has been identified. The present study examines emotion controllability beliefs, emotion values, and emotion control values and the relationships between these beliefs and emotion regulation strategies.

Emotion controllability beliefs

Emotion controllability beliefs are influenced by Dweck's socio-cognitive model of implicit theories (Molden & Dweck, 2006; Dweck & Leggett, 1988). Specifically, some people believe that emotions are fixed, and individuals cannot control their emotions. Others believe in the potential for change and that individuals can control their emotions. These beliefs are considered implicit because they are not always explicitly expressed, and these beliefs influence motivation to engage in challenging situations, implement

self-regulation, and beliefs about the degree of control individuals have over themselves (e.g., control over individual abilities and external situations; Kneeland et al., 2016a). Implicit theories are measured using self-report questionnaires as opposed to measures of implicit associations, such as the implicit association test (De Castella et al., 2015).

Emotion controllability beliefs have been associated with both acute emotional outcomes (e.g., emotion intensity) and more cumulative emotional outcomes (e.g., psychological well-being) in general populations (Ford & Gross, 2019). Fixed emotion beliefs have been associated with higher emotion intensity in response to the induction of negative emotions in a laboratory environment and self-report scales (Kappes & Schikowski, 2013; Tamir et al., 2007; Ford & Gross, 2019). Fixed emotion beliefs have been associated with less favorable emotion experiences, decreased well-being, higher depression, increased psychological distress, poorer life satisfaction, and more loneliness in undergraduate students (Tamir et al., 2007; De Castella et al., 2013). During the transition to college, higher fixed emotion beliefs were associated with fewer positive and more negative emotions during a year (Tamir et al., 2007). Beliefs that emotions are controllable have been associated with greater psychological well-being, lower rates of depression, lower loneliness, and more willingness to confront negative affect in undergraduate student samples. Beliefs that emotions are controllable were also associated with fewer negative emotions and more positive emotions during a transition to college.

Emotion regulation might mediate the link between emotion controllability beliefs and emotion outcomes. Emotion controllability beliefs might influence the degree to which people are motivated to engage in specific emotion regulation strategies (Kneeland

et al., 2016a). Fixed emotion beliefs have been associated with less frequent use of cognitive reappraisal in everyday life (De Castella et al., 2013; Tamir et al., 2007). Beliefs that emotions are controllable have been associated with greater emotion regulation self-efficacy and more frequent use of cognitive reappraisal, and these relationships were not explained by emotion intensity (Tamir et al., 2007). Findings regarding the relationship between fixed emotion beliefs and suppression are mixed. One study found that fixed emotion beliefs are associated with decreased use of suppression, while another study found no associations between fixed emotion beliefs and suppression (Tamir et al., 2007; Schroder et al., 2015). It has been hypothesized that beliefs that emotions are controllable are associated with more active, early-stage attempts at self-regulation that aim to change emotions early on in the emotion generative process, such as cognitive reappraisal (Kneeland et al., 2016a; Gross, 1998). It is also possible that these beliefs are associated with more emotion regulation efforts overall. Conversely, individuals with fixed emotion beliefs may engage in late-stage emotion regulation efforts later in the emotion generative process, such as expressive suppression.

Maladaptive emotion regulation strategies are central to the etiology and maintenance of psychopathology (Kneeland et al., 2016a). In a clinical context, encouraging individuals to believe that emotions are controllable might be beneficial. Such a belief system might decrease individuals' reliance on maladaptive emotion regulation strategies or a limited range of strategies. This belief system might promote an active coping stance and increase motivation to engage in emotion regulation. Moreover, emotion controllability beliefs are an attractive psychotherapy target because they are malleable (Molden & Dweck, 2006; Ford & Gross, 2019).

Few studies have examined emotion controllability beliefs in clinical populations. In one study, patients with a social anxiety disorder who endorsed fixed emotion controllability beliefs reported higher levels of perceived stress and anxiety, higher levels of negative affect, and lower levels of self-esteem (De Castella et al., 2014). Fixed control emotion beliefs were not correlated with positive emotions. Furthermore, emotion controllability beliefs explained unique variance in social anxiety disorder severity. In a randomized controlled trial of cognitive-behavioral therapy for social anxiety disorder, fixed emotion controllability beliefs of anxiety indirectly explained changes in symptoms and uniquely predicted treatment outcomes when controlling for other maladaptive beliefs and baseline social anxiety (De Castella et al., 2015).

Although some research has examined relationships between emotion controllability beliefs with depression and anxiety, there is no research on emotion controllability beliefs and anger. In fact, research on cognitive processes related to anger has been sparse but increasing in recent years (Martin & Dahlen, 2007). Martin and Dahlen (2007) highlight five cognitive processes that are relevant in the anger literature. One cognitive process identified is catastrophic evaluations, which means appraising events as highly negative and one's coping skills as inadequate. It is therefore possible that individuals with anger problems perceive their ability to cope with negative emotions as inadequate and hold fixed emotion controllability beliefs however more research is needed to examine emotion controllability beliefs and anger.

Emotion controllability beliefs might also have implications for hypothetical treatment preference. Undergraduate students who chose a medication-only mental health treatment option endorsed more fixed emotion beliefs than those who chose an individual

therapy option and a combined individual therapy and medication option (Schroder et al., 2015; Reffi et al., 2020). Such findings suggest that those with fixed emotion beliefs might endorse genetic essentialist beliefs. The endorsement of biomedical models of mental health has been linked to pessimism about recovery and self-fulfilling prophecies that could impede psychotherapy progress (Kvaale et al., 2013).

Emotion values

The concept that negative emotions are disruptive, problematic, and controllable is widespread in the field of psychology (Gratz & Tull, 2010). However, mindfulness and emotion acceptance research postulates that efforts to control negative emotions might not be effective or healthy and could have paradoxical effects. For example, valuing controlling emotions might be associated with negative evaluations of some emotions. A third wave, acceptance-based approach, asserts that all emotions are functional and encourages awareness, understanding, and acceptance of all emotions. Research in general and clinical populations suggests that less emotion-acceptance is related to an increase in negative emotional experiences and might have implications for psychopathology. In one study, greater acceptance of mental experiences predicted lower negative emotional responses to stress with a standardized stressor and in daily life in a general population (Ford et al., 2017). A meta-analysis concluded that negative cognitive and affective evaluations of negative emotional experiences and depression (e.g., emotions are harmful, intolerable) were associated with more depression with a medium to large effect (Yoon et al., 2018). This effect size was larger than previously observed associations between emotion regulation strategies and depression.

Relationships between emotion acceptance and emotion regulation remain unclear. It is possible that emotion-acceptance alters emotion experiences in the same way emotion regulation does and can be considered a response focused emotion regulation strategy (Ford et al., 2017; Kohl et al., 2012; Wolgast et al., 2011). However, emotion acceptance also represents an emotion belief regarding the acceptability of emerging emotions. Emotion acceptance reflects a mental stance not to change emotions. In contrast, emotion regulation is defined as an active process to shift current emotions to emotion goals (Tamir et al., 2020). Mindfulness and acceptance literature posits a distinction between attempts to control emotion experience and control emotion expression (Gratz & Tull, 2010). Implications for clinical interventions include focusing on adaptive ways to respond to emotional distress rather than controlling emotions or decreasing emotional arousal.

Another category of emotion beliefs related to emotion values is emotion control values (Goodman et al., 2020; Mauss et al., 2010). High emotion control values refer to the belief that people should monitor emotional expression and control their emotions. People who do not value emotion control believe it is acceptable to experience and express emotions. Because people with social anxiety disorder hold themselves to unreasonably high social standards and demonstrate concern about displaying perceived character flaws, emotion control values are particularly relevant to social anxiety disorder (Goodman et al., 2020). Goodman and colleagues (2020) found that participants with social anxiety disorder had higher emotion control values and that emotion control values were positively associated with daily attempts at emotion suppression. Research has demonstrated that people with social anxiety disorder have endorsed stronger beliefs

about emotional control than individuals without a current psychiatric disorder (Goodman et al., 2020). Moreover, emotion control values vary across cultures and could be relevant to anger expression. Past research demonstrated that emotional control is highly valued in Asian cultures (Murata et al., 2013). Mauss and colleagues (2010) found that Asian-American and European-American participants' differences in emotion control values partially mediated cultural group differences in anger experience and expressions after an anger provocation. Asian-American participants endorsed smaller increases in anger experiences and less intense anger expressions than European-American participants. However, autonomic physiological responses did not differ between these cultural groups.

Hypotheses

Although emotion controllability beliefs have been associated with psychological well-being, previous research has not studied emotion beliefs in a range of specific emotion domains using clinical measures. Also, the Stoic, CBT, and REBT make different statements about emotion-acceptance and emotion control than the third wave approaches such as ACT. The present study attempts to test hypotheses based on the different predictions of these different theoretical positions. This study examined the mediating role of dispositional tendencies to regulate emotions (i.e., the tendency to consistently implement an emotion regulation strategy across situational contexts). The present study examined individuals' emotion controllability beliefs and their relationship to emotion outcomes as potentially mediated by the tendency to engage in specific emotion regulation strategies (cognitive reappraisal and expressive suppression). Emotion

controllability beliefs represent a facet of Stoic philosophy of emotions that is foundational to REBT and CBT.

The present study also examined the effect of emotion acceptance (nonjudgmental attitudes about emotions) on emotion outcomes and emotion regulation. Nonjudgmental attitudes measure a facet of emotion beliefs grounded in the Eastern philosophical traditions, which have influenced the development of third-wave CBT approaches, such as ACT.

The hypotheses for the present study are as follows:

(1) A greater endorsement that emotions are controllable (malleable emotion controllability beliefs) would be associated with lower depression, anxiety, and anger scores. This hypothesis is theoretically consistent with Stoic philosophy, REBT, and CBT that posit that changing irrational beliefs and cognitive distortions can lead to decreases in dysfunctional emotions.

(2) Increased endorsement of nonjudgmental attitudes about emotions would be associated with lower depression, anxiety, and anger scores. This hypothesis is theoretically consistent with third-wave CBT interventions, including ACT, which postulate that acceptance of emotions contributes to psychological well-being.

(3) Higher endorsement of emotion control values would be associated with higher depression, anxiety, or anger scores. This hypothesis is theoretically consistent with third-wave CBT interventions, including ACT, which postulate that efforts to control negative emotions can lead to increased experiences of negative emotions.

(4) Higher endorsement of emotion controllability beliefs and nonjudgmental attitudes about emotions and lower endorsement of emotion control values would negatively predict emotion outcomes (depression, anxiety, and anger scores).

(5) Emotion regulation strategies, including cognitive reappraisal and expressive suppression, would partially mediate the relationship between emotion controllability beliefs and emotion outcomes (depression, anxiety, and anger).

(6) Emotion regulation strategies, including cognitive reappraisal and expressive suppression, would partially mediate the relationship between nonjudgmental attitudes towards emotions and emotion outcomes (depression, anxiety, and anger scores).

METHOD

Participants and Procedure

Participants consisted of 315 undergraduate students enrolled in psychology courses who received course credit for participation. Additional participants were recruited through Amazon Mechanical Turk and social media sites such as Facebook.

Measures

Emotion controllability. Personal beliefs about the controllability of emotions were assessed using a variant of the Implicit Beliefs about Emotions Scale (Tamir et al., 2007; De Castella et al., 2013). The original scale consists of four items that measure general beliefs about emotion malleability. Two items measure *incremental beliefs,* and two items measure *entity beliefs.* The items were measured using a 5-point Likert scale. Incremental beliefs refer to beliefs that emotions are malleable and controllable. Entity beliefs refer to beliefs that emotions are fixed and unchangeable. Entity belief items were reverse scored so that higher implicit belief scores reflect an incremental theory, and lower scores reflect an entity theory of emotions. The personal scale is similar to the general scale, except items assess first-person beliefs about the ability to control one's own emotions. The personal scale demonstrated acceptable internal consistency in a sample of undergraduate psychology students ($\alpha = .75$). The personal scale was used because past research indicates that individuals' beliefs about their ability to control their own emotions are a better predictor of psychological well-being and health than their beliefs about the ability of people in general to control emotions. Items were as follows: "If I want to, I can change the emotions that I have," "I can learn to control my

emotions," "The truth is, I have very little control over my emotions," and "No matter how hard I try, I can't change the emotions that I have."

Emotion acceptance. Acceptance of emotions was measured using the non-judgment subscale of the Five-Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2006). The FFMQ is a 39-item scale developed through factor analysis using items from five independently developed mindfulness scales (Williams et al., 2014). The FFMQ measures five mindfulness skill subscales. The non-judgment scale consists of eight items measured using a 5-point Likert scale ranging from 1 (*never or very rarely true*) to 5 (*very often or always true*). This scale measures the acceptance of both emotions and thoughts. Past research supports that, although this scale consists of items related to acceptance of both emotions and thoughts, acceptance of emotions and acceptance of thoughts are not empirically distinct, and both sets of items are highly correlated and had comparable associations to psychological health (Ford et al., 2017). This scale demonstrated good internal consistency in a sample of undergraduate psychology students ($\alpha = .87$). Examples of items include "I criticize myself for having irrational or inappropriate emotions," and "I tell myself I shouldn't be feeling the way I'm feeling."

Emotion control values. Emotion control values were measured using the Emotion Control Values-Self-report measure (Mauss et al., 2010). The scale consists of six items that measure beliefs about emotion control and expression measured on a 10-point Likert scale, ranging from 0 (*strongly disagree*) to 10 (*strongly agree*). Positive correlations with emotion suppression and negative correlations with the tendency to vent emotions indicate good construct validity (Goodman et al., 2020). This scale demonstrated acceptable internal consistency in a sample of European-American

undergraduate students (α = .71) and questionable internal consistency in a sample of Asian-American undergraduate students (α = .64). Items are as follows. "People should not express their emotions openly." "It is wrong for people to always display how they feel." "People should let out pent up emotions." "People should show their emotions when overcome with strong feelings." "People, in general, should control their emotions more," and ''I think it is appropriate to express emotions, no matter whether negative or positive."

Depression. Depression was measured using the depression module of the Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001; Spitzer et al., 1999). The PHQ-9 is a 9 item self-report measure designed to assess probable cases of major depressive disorder and to assess symptom severity. The items represent DSM-IV criteria that are measured on a 4-point Likert scale, ranging from 0 (*not at all*) to 3 (*nearly every day*). As a severity measure, scores can range from 0 to 27, with scores of ≥ 5, ≥ 10, ≥ 15, and ≥ 20 representing mild, moderate, moderately severe, and severe depression symptom levels, respectively. This measure demonstrated excellent internal reliability in primary care patient sample (α = .89) and an obstetrics-gynecology patient sample (α = .86). This measure also demonstrated criterion validity, construct validity, and external validity.

Anxiety. Anxiety was measured using the Generalized Anxiety Disorder Scale (GAD-7; Lowe et al., 2008; Kroenke et al., 2007; Spitzer et al., 2006). The GAD-7 is a 7 item self-report measure designed to assess probable cases of generalized anxiety disorder and to assess symptom severity. The items represent the most prominent criteria for generalized anxiety disorder and are measured on a 4-point Likert scale, ranging from 0 (*not at all*) to 3 (*nearly every day*). As a severity measure, scores range from 0 to 21,

with scores of ≥ 5, ≥ 10, and ≥ 15 representing mild, moderate, and severe anxiety symptom levels, respectively. The GAD-7 demonstrated high reliability and validity in primary care patients and the general population.

Anger. Anger was assessed using the short form of the Anger Disorders Scale (ADS-SF; DiGiuseppe & Tafrate, 2004), an 18 item self-report measure of dysfunctional trait anger. Items are measured on a 5-point Likert-scale that varies based on the item, with some ranging in terms of frequency, and others in terms of intensity (from 1 [*never/not at all*] to 5 [*almost every day/always*]), with higher scores indicating more dysfunctional anger. The ADS-SF has excellent internal consistency and correlates 0.96 with the 72-item long form of the ADS. Examples of items include "I have been so angry that I became aware of my heart racing," and "When I get angry, I yell or scream at people."

Emotion Regulation. Emotion regulation was assessed using the Emotion Regulation Questionnaire (ERQ), a 10-item scale designed to measure a respondent's tendency to regulate their emotions using cognitive reappraisal and expressive suppression (Gross & John, 2003). Cognitive reappraisal is defined as changing the way one thinks about a situation to change its emotional impact (Gross, 2002). An example of an item that measures cognitive reappraisal is, "when I want to feel more *positive* emotion (such as joy or amusement), I *change what I'm thinking about*." Expressive suppression is defined as attempting to inhibit expressions of emotions. An example of an item that measures expressive suppression is, "I keep my emotions to myself." Items are measured on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The ERQ is evidenced to have strong psychometric properties, cognitive

reappraisal (α = .89-.90), and expressive suppression (α = .76-.80) subscales have

acceptable to excellent levels of internal consistency in general community samples

(Preece et al., 2019).

Procedure

Participants completed the measures above using a link to an anonymous online

Qualtrics survey, which was preceded by a page explaining instructions collecting

informed consent. We posted a note that included a link to the survey to recruit

participants on various social media sites.

Data Analysis

We first examined for missing data. Visual inspection was initially used to

remove eight cases with many missing items (greater than 25%). A series of linear

regressions were conducted to examine relationships between demographic variables,

including age and gender, and outcome measures. Next, one-way ANOVAs were used to

test sample group differences in outcome variables.

Correlations were run to test associations between outcome variables to address

hypotheses one, two, and three. Fisher's r to z transformation was conducted to explore

comparisons between correlation coefficients associated with emotion beliefs.

Hierarchical regression analyses controlling for significant covariates were run to test the

predictive value of emotion beliefs on depression, anxiety, and anger (hypothesis 4). The

regression assumption of independence of observations was checked using the Durbin-

Watson statistic. The regression assumptions of linearity between the dependent variable

and each of the independent variables and the dependent variable and the independent

variables collectively were tested by observing partial regression plots and scatterplots of

studentized residuals and unstandardized predicted values respectively. Regression assumptions of normality, multicollinearity, and homoscedasticity were examined by observing a histogram with superimposed normal curve and a P-P Plot, tolerance, and VIF values, and a scatter plot of the residuals, respectively. Outliers were detected using casewise diagnostics and studentized deleted residuals, and leverage and influential points were also detected. Several simple mediation analyses were performed using PROCESS controlling for gender, age, and data source to test hypotheses 5 and 6.

RESULTS

General characteristics of sample

There were 315 participants in the study, and eight participants did not finish the study. Two hundred twenty-one participants (72.0%) were female, 80 participants (26.1%) were male, and 6 participants (2.0%) identified their gender as other (e.g., agender, non-binary, and gender-nonconforming). Thirty-eight participants (12.4%) were African American, 171 participants (54.7%) were Caucasian, 22 participants (7.2%) were Asian, 12 participants (3.9%) were South Asian, 46 participants (15.0%) were Hispanic, 3 participants (1.0%) were Native American, and 15 participants (4.9%) identified their ethnicity as "other." The mean age was 24.6 ($SD = 11.09$).

A series of linear regressions were conducted to examine the relationships between demographic variables and outcome measures. A linear regression established that age significantly predicted nonjudgmental attitudes about emotions, ($\beta = .29$, $F(1, 305) = 28.45$, $p < .001$), depression ($\beta = -.26$, $F(1, 305) = 21.45$, $p < .001$), anxiety ($\beta = -.29$, $F(1, 305) = 27.73$, $p < .001$), anger ($\beta = -.18$, $F(1, 305) = 9.58$, $p = .002$), cognitive reappraisal ($\beta = .11$, $F(1, 305) = 3.95$, $p = .05$), and expressive suppression ($\beta = -.16$, $F(1, 305) = 7.64$, $p = .006$). Older age was associated with increased nonjudgmental attitudes, lower depression, lower anxiety, lower anger, increased use of cognitive reappraisal, and less use of expressive suppression. Implicit beliefs about emotions were statistically significantly different across genders, Welch's $F(2, 13.05) = 5.56$, $p = .018$; males endorsed more fixed beliefs of emotions in comparison to females. Emotion control values were statistically significantly different across genders, $F(2, 304) = 4.37$, $p = .013$; males endorsed higher emotion control values in comparison to females.

Depression was also statistically significantly different across genders, $F(2, 304) = 3.38$, $p = .04$; males endorsed lower depression in comparison to females.

One-way ANOVAs were used to test sample group differences in outcome variables. The Tukey HSD *post-hoc* test was used to examine differences between samples when equal variances are assumed, and the Games-Howell *post hoc* test was used to examine differences when equal variances were not assumed. Overall, there were significant differences in nonjudgmental attitudes between groups, Welch's $F(2, 75.18) = 6.21$, $p = .003$. Participants in the Mturk sample ($M = 28.63$, $SD = 8.66$) were significantly more nonjudgmental than participants in the undergraduate ($M = 22.27$, $SD = 6.85$) and social media samples ($M = 23.46$, $SD = 8.12$), and the effect size of these differences was approximately medium (Cohen's $f = 0.22$). There were overall significant differences in depression between groups, $F(2, 304) = 9.65$, $p < .001$; the effect size of these differences was approximately medium (Cohen's $f = 0.26$). Participants in the Mturk sample ($M = 13.08$, $SD = 5.28$) reported significantly lower levels of depression in comparison to participants in the undergraduate ($M = 17.37$, $SD = 6.60$) and social media ($M = 17.20$, $SD = 6.56$) samples. There were overall significant differences in anxiety between groups, Welch's $F(2, 86.20) = 12.65$, $p < .001$); the effect size of these differences was approximately medium (Cohen's $f = 0.26$). Participants in the Mturk sample ($M = 10.96$, $SD = 4.79$) reported significantly lower levels of anxiety in comparison to participants in the undergraduate ($M = 14.93$, $SD = 6.16$) and social media samples ($M = 14.10$, $SD = 6.14$). Given these differences, age, gender, and data source were entered as covariate variables in hierarchical linear regression analyses.

Preliminary analyses

Preliminary analyses examined correlations between independent and dependent variables in the study. These correlations appear in Table 1. Emotion controllability beliefs were positively correlated with nonjudgmental attitudes ($r = .33, p < .001$) and cognitive reappraisal ($r = .40, p < .001$) and negatively correlated with depression ($r = -.31, p < .001$), anxiety ($r = -.36, p < .001$), and anger ($r = -.41, p < .001$). Nonjudgmental attitudes were positively correlated with cognitive reappraisal ($r = .18, p < .001$); namely, endorsing more nonjudgmental attitudes about emotions was associated with endorsing more frequent use of cognitive reappraisal. Nonjudgmental attitudes were negatively correlated with depression ($r = -.56, p < .001$), anxiety ($r = -.58, p < .001$), anger ($r = -.52, p < .001$), and expressive suppression ($r = -.23, p < .001$). Emotion controllability values were negatively correlated with cognitive reappraisal ($r = -.14, p < .001$). Depression was positively correlated with anxiety ($r = .78, p < .001$), anger ($r = .52, p < .001$), and expressive suppression ($r = .20, p < .001$) and negatively correlated with cognitive reappraisal ($r = -.26, p < .001$). Anxiety was positively correlated with anger ($r = .57, p < .001$) and expressive suppression ($r = .17, p < .001$) and negatively correlated with cognitive reappraisal ($r = -.30, p < .001$). Anger was positively correlated with expressive suppression ($r = .29, p < .001$) and negatively correlated with cognitive reappraisal ($r = -.18, p < .001$).

These results supported hypothesis 1, because emotion controllability beliefs scores were negatively associated with depression, anxiety, and anger scores. High emotion controllability belief scores refer to malleable emotion controllability beliefs, whereas low emotion controllability belief scores refer to fixed emotion controllability beliefs.

Thus, greater endorsement of fixed emotion beliefs was associated with greater

endorsement of these disturbing emotions.

These results also supported hypothesis 2 because nonjudgmental attitudes about

emotions were negatively associated with depression, anxiety, and anger scores. The

hypothesis that high emotion control values will be associated with higher depression,

anxiety, or anger scores (hypothesis 3) was not supported.

Comparing correlation coefficients

Fisher's *r* to *z* transformation and an asymptotic *z*-test were conducted to compare

correlations between emotion beliefs and emotion outcomes. Nonjudgmental attitudes

were significantly more correlated with depression in comparison to emotion

controllability beliefs (*z*-score = 4.44, *p* < .001). Nonjudgmental attitudes were

significantly more correlated with anxiety than emotion controllability beliefs (*z*-score =

4.00, *p* < .001). Nonjudgmental attitudes were significantly more correlated with anger in

comparison to emotion controllability beliefs (*z*-score = 1.97, *p* = .05).

Predictors of emotion outcomes

A two-stage hierarchical linear regression model was tested to determine if

emotion control values, emotion controllability beliefs, and nonjudgmental attitudes

improved the prediction of depression over demographic variables. Age, gender, and data

source were entered at stage one of the regression. The emotion belief variables (emotion

control values, emotion controllability beliefs, and nonjudgmental attitudes) were entered

at stage two. As assessed by partial regression plots and a plot of studentized residuals

against the predicted values, there was linearity. There was independence of residuals, as

assessed by a Durbin-Watson statistic of 1.93. Homoscedasticity was present and was

assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were two studentized deleted residuals greater than ±3 standard deviations. Because there were no leverage values greater than 0.2 and values for Cook's distance above 1, cases with studentized deleted residuals greater than ±3 standard deviations were not removed. The assumption of normality was met as assessed by Q-Q Plot.

The hierarchical linear regression revealed that, at stage one, age, gender, and date source contributed significantly to the regression model and accounted for 9.3% of the variation in depression, $F(5, 301) = 6.17$, p < .001. Adding emotion control values, emotion controllability beliefs, and nonjudgmental attitudes explained an additional 27.2% of the variance and the change in R^2 was statistically significant, $R^2 = .37$, $F(8, 298) = 21.44$, p < .001; adjusted $R^2 = .35$. See Table 2 for full details on each model in the hierarchical linear regression. When all independent variables were in the model, emotion controllability beliefs ($\beta = -.12$, $t = -2.44$, $p = .02$) and nonjudgmental attitudes about emotions ($\beta = -.50$, $t = -9.53$, $p < .001$) significantly predicted depression. Emotion control values did not significantly predict depression ($\beta = -.09$, $t = -1.80$, $p = .07$).

A two-stage hierarchical linear regression model was tested to determine if emotion control values, emotion controllability beliefs, and nonjudgmental attitudes improved the prediction of anxiety over demographic variables. Age, gender, and data source were entered at stage one of the regression. The emotion belief variables (emotion control values, emotion controllability beliefs, and nonjudgmental attitudes) were entered at stage two. As assessed by partial regression plots and a plot of studentized residuals

against the predicted values, there was linearity. There was independence of residuals, as

assessed by a Durbin-Watson statistic of 2.11. There was homoscedasticity, as assessed

by visual inspection of a plot of studentized residuals versus unstandardized predicted

values. There was no evidence of multicollinearity, as assessed by tolerance values

greater than 0.1. There were two studentized deleted residuals greater than ±3 standard

deviations. Because there were no leverage values greater than 0.2 and values for Cook's

distance above 1, cases with studentized deleted residuals greater than ±3 standard

deviations were not removed. The assumption of normality was met, as assessed by Q-Q

Plot.

The hierarchical linear regression revealed that, at stage one, age, gender, and date

source contributed significantly to the regression model and accounted for 8.7% of the

variation in anxiety, $F(5, 301) = 6.81$, p < .001. Adding emotion control values, emotion

controllability beliefs, and nonjudgmental attitudes explained an additional 30% of the

variance and the change in R^2 was statistically significant, $R^2 = .40$, $F(8, 298) = 24.98$, p <

.001; adjusted $R^2 = .39$. See Table 3 for full details on each model in the hierarchical

linear regression. When all independent variables were in the model, emotion

controllability beliefs ($\beta = -.18$, $t = -3.58$, $p < .001$), nonjudgmental attitudes about

emotions ($\beta = -.50$, $t = -9.73$, $p < .001$), and emotion control values ($\beta = -.10$, $t = -2.16$, p

$= .03$) significantly predicted anxiety.

A two-stage hierarchical linear regression model was tested to determine if

emotion control values, emotion controllability beliefs, and nonjudgmental attitudes

improved the prediction of anger over age, gender, and data source. Age, gender, and

data source were entered at stage one of the regression. The emotion belief variables

(emotion control values, emotion controllability beliefs, and nonjudgmental attitudes) were entered at stage two. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 2.02. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were three studentized deleted residuals greater than ±3 standard deviations. Because there were no leverage values greater than 0.2 and values for Cook's distance above 1, cases with studentized deleted residuals greater than ±3 standard deviations were not removed. The assumption of normality was met, as assessed by Q-Q Plot.

The hierarchical linear regression revealed that, at stage one, age, gender, and date source contributed significantly to the regression model and accounted for 5.4% of the variation in anger, $F(5, 301) = 3.45$, p < .01. Adding emotion control values, emotion controllability beliefs, and nonjudgmental attitudes explained an additional 30% of the variance and the change in R^2 was statistically significant, $R^2 = .35$, $F(8, 298) = 20.42$, p < .001; adjusted $R^2 = .34$. See Table 4 for full details on each model in the hierarchical linear regression. Controlling for the covariates, emotion controllability beliefs ($\beta = -.29$, $t = -5.69$, $p < .001$) and nonjudgmental attitudes about emotions ($\beta = -.41$, $t = -7.68$, $p < .001$) significantly predicted anger. Emotion control values did not significantly predict anger ($\beta = .01$, $t = -.10$, $p = .92$). The hypothesis that emotion controllability beliefs, nonjudgmental attitudes about emotions, and emotion control values would significantly predict emotion outcomes (depression, anxiety, and anger scores; hypothesis 4) was

partially supported. These results suggest that emotion controllability beliefs and nonjudgmental attitudes about emotions predict depression, anxiety, and anger, and emotion control values predict anxiety but not depression and anger.

Mediation

It was hypothesized that the relationships between emotion beliefs and depression, anxiety, and anger were mediated by emotion regulation processes, specifically cognitive reappraisal and expressive suppression. Several simple mediation analyses were performed using PROCESS, controlling for gender, age, and data source.

Mediation analysis with depression as a dependent variable

The first mediator model consisted of the dependent variable of depression, the independent variable of emotion controllability beliefs, and a mediator of cognitive reappraisal (Figure 1). For the total effect, the regression of emotion controllability beliefs on depression was significant, $b = -.59$, $t(302) = -5.20$, $p < .001$. For the indirect effects, the regression of emotion controllability beliefs on cognitive appraisal was significant, $b = .93$, $t(303) = 7.37$, $p < .001$. It was found that cognitive reappraisal partially mediated the relationship between emotion controllability beliefs and depression, indirect effect $= -.12$, $SE = .06$, 95% CI [-.24, -.02]. These results support the hypothesis that cognitive reappraisal would partially mediate the relationship between emotion controllability beliefs and depression (hypothesis 5). The directional relationship in this mediator model was examined by reversing the independent and dependent variables in another mediator model, so that emotion controllability beliefs was the dependent variable and depression was the independent variable. The mediator model

remained significant, and cognitive reappraisal partially mediated the effect of depression on emotion controllability beliefs.

The second mediator model consisted of the dependent variable of depression, the independent variable of emotion controllability beliefs, and a mediator of expressive suppression (Figure 2). For the total effect, the regression of emotion controllability beliefs on depression was significant, $b = -.59$, $t(302) = -5.20$, $p < .001$. Indirect effects: the regression of emotion controllability beliefs on expressive suppression was significant, $b = -.18$, $t(303) = -2.04$, $p = .04$. Expressive suppression did not mediate the relationship between emotion controllability beliefs and depression, indirect effect = -.04, $SE = .02$, 95% CI [-.09, .005]. These results do not support the hypothesis that expressive suppression would partially mediate the relationship between emotion controllability beliefs and depression (hypothesis 5).

The third mediator model consisted of the dependent variable of depression, the independent variable of nonjudgmental attitudes, and a mediator of cognitive reappraisal (Figure 3). Total effect: the regression of emotion controllability beliefs on depression was significant, $b = -.47$, $t(302) = -11.08$, $p < .001$. Indirect effects: the regression of nonjudgmental attitudes on cognitive appraisal was significant, $b = .17$, $t(303) = 2.86$, $p < .01$. Cognitive reappraisal partially mediated the relationship between nonjudgmental attitudes and depression, indirect effect = -.02, $SE = .01$, 95% CI [-.05, -.003]. These results support the hypothesis that cognitive reappraisal would partially mediate the relationship between nonjudgmental attitudes and depression (hypothesis 6). The directional relationship in this mediator model was examined by reversing the independent and dependent variables in another mediator model, so that nonjudgmental

attitudes about emotions was the dependent variable and depression was the independent variable. Cognitive reappraisal did not mediate the effect of depression on nonjudgmental attitudes.The fourth mediator model consisted of the dependent variable of depression, the independent variable of nonjudgmental attitudes, and a mediator of expressive suppression (Figure 4). Total effect: the regression of emotion controllability beliefs on depression was significant, $b = -.47$, $t(302) = -11.08$, $p < .001$. Indirect effects: the regression of nonjudgmental attitudes on expressive suppression was significant, $b = -.13$, $t(303) = -3.52$, $p < .001$. Expressive suppression did not mediate the relationship between nonjudgmental attitudes and depression, indirect effect $= -.01$, $SE = .01$, 95% CI [-.04, .002]. These results do not support the hypothesis that expressive suppression would partially mediate the relationship between nonjudgmental attitudes and depression (hypothesis 6).

Mediation analysis with anxiety as a dependent variable

The fifth mediator model consisted of the dependent variable of anxiety, the independent variable of emotion controllability beliefs, and a mediator of cognitive reappraisal (Figure 5). Total effect: the regression of emotion controllability beliefs on depression was significant, $b = -.64$, $t(302) = -6.27$, $p < .001$. Indirect effects: the regression of emotion controllability beliefs on cognitive appraisal was significant, $b = .93$, $t(303) = 7.37$, $p < .001$. Cognitive reappraisal partially mediated the relationship between emotion controllability beliefs and anxiety, indirect effect $= -.13$, $SE = .05$, 95% CI [-.24, -.03]. These results support the hypothesis that cognitive reappraisal would partially mediate the relationship between emotion controllability beliefs and anxiety (hypothesis 5). The directional relationship in this mediator model was examined by

reversing the independent and dependent variables in another mediator model, so that emotion controllability beliefs was the dependent variable and anxiety was the independent variable. The mediator model remained significant, and cognitive reappraisal partially mediated the effect of depression on emotion controllability beliefs.

The sixth mediator model consisted of the dependent variable of anxiety, the independent variable of emotion controllability beliefs, and a mediator of expressive suppression (Figure 6). Total effect: the regression of emotion controllability beliefs on depression was significant, $b = -.64$, $t(302) = -6.27$, $p < .001$. Indirect effects: the regression of emotion controllability beliefs on expressive suppression was significant, $b = -.18$, $t(303) = -2.04$, $p = .04$. Expressive suppression did not mediate the relationship between emotion controllability beliefs and anxiety, indirect effect $= -.03$, $SE = .02$, 95% CI [-.07, .01]. These results do not support the hypothesis that expressive suppression would partially mediate the relationship between emotion controllability beliefs and anxiety (hypothesis 5).

The seventh mediator model consisted of the dependent variable of anxiety, the independent variable of nonjudgmental attitudes, and a mediator of cognitive reappraisal (Figure 7). Total effect: the regression of nonjudgmental attitudes on depression was significant, $b = -.45$, $t(302) = -11.48$, $p < .001$. Indirect effects: the regression of nonjudgmental attitudes on cognitive appraisal was significant, $b = .17$, $t(303) = 2.86$, $p < .01$. Cognitive reappraisal partially mediated the relationship between nonjudgmental attitudes and anxiety, indirect effect $= -.03$, $SE = .01$, 95% CI [-.05, -.004]. These results support the hypothesis that cognitive reappraisal would partially mediate the relationship between nonjudgmental attitudes and anxiety (hypothesis 6). The directional relationship

in this mediator model was examined by reversing the independent and dependent variables in another mediator model, so that nonjudgmental attitudes about emotions was the dependent variable and anxiety was the independent variable. Cognitive reappraisal did not mediate the effect of anxiety on nonjudgmental attitudes.

The eighth mediator model consisted of the dependent variable of anxiety, the independent variable of nonjudgmental attitudes, and a mediator of expressive suppression (Figure 8). Total effect: the regression of nonjudgmental attitudes on depression was significant, $b = -.45$, $t(302) = -11.48$, $p < .001$. Indirect effects: the regression of nonjudgmental attitudes on expressive suppression was significant, $b = -.13$, $t(303) = -3.52$, $p < .001$. Expressive suppression did not mediate the relationship between nonjudgmental attitudes and anxiety, indirect effect $= -.01$, $SE = .01$, 95% CI [-.03, .01]. These results do not support the hypothesis that expressive suppression would partially mediate the relationship between nonjudgmental attitudes and anxiety (hypothesis 6).

Mediation analysis with anger as a dependent variable

The ninth mediator model consisted of the dependent variable of anger, the independent variable of emotion controllability beliefs, and a mediator of cognitive reappraisal (Figure 9). Total effect: the regression of emotion controllability beliefs on anger was significant, $b = -1.44$, $t(302) = -8.01$, $p < .001$. Indirect effects: the regression of emotion controllability beliefs on cognitive appraisal was significant, $b = .93$, $t(303) = 7.37$, $p < .001$. Cognitive reappraisal did not mediate the relationship between emotion controllability beliefs and anger, indirect effect $= -.01$, $SE = .10$, 95% CI [-.24, .17]. These results do not support the hypothesis that cognitive reappraisal would partially mediate the relationship between emotion controllability beliefs and anger (hypothesis 5).

The tenth mediator model consisted of the dependent variable of anger, the independent variable of emotion controllability beliefs, and a mediator of expressive suppression (Figure 10). Total effect: the regression of emotion controllability beliefs on anger was significant, $b = -1.44$, $t(302) = -8.01$, $p < .001$. Indirect effects: the regression of emotion controllability beliefs on expressive suppression was significant, $b = -.18$, $t(303) = -2.04$, $p = .04$. Expressive suppression did not mediate the relationship between emotion controllability beliefs and anger, indirect effect $= -.09$, $SE = .06$, 95% CI [-.21, .01]. These results do not support the hypothesis that expressive suppression would partially mediate the relationship between emotion controllability beliefs and anger (hypothesis 5).

The eleventh mediator model consisted of the dependent variable of anger, the independent variable of nonjudgmental attitudes, and a mediator of cognitive reappraisal (Figure 11). Total effect: the regression of nonjudgmental attitudes on anger was significant, $b = -.73$, $t(302) = -10.06$, $p < .001$. Indirect effects: the regression of nonjudgmental attitudes on cognitive reappraisal was significant, $b = .17$, $t(303) = 2.86$, $p < .01$. Cognitive reappraisal did not mediate the relationship between nonjudgmental attitudes and anger, indirect effect $= -.02$, $SE = .02$, 95% CI [-.07, .01]. These results support the hypothesis that cognitive reappraisal would partially mediate the relationship between nonjudgmental attitudes and anger (hypothesis 6).

The twelfth mediator model consisted of the dependent variable of anger, the independent variable of nonjudgmental attitudes, and a mediator of expressive suppression (Figure 12). Total effect: the regression of nonjudgmental attitudes on anger was significant, $b = -.73$, $t(302) = -10.06$, $p < .001$. Indirect effects: the regression of

nonjudgmental attitudes on expressive suppression was significant, $b = -.13$, $t(303) = -3.52$, $p < .001$. Expressive suppression partially mediated the relationship between nonjudgmental attitudes and anger, indirect effect $= -.05$, $SE = .02$, 95% CI [-.11, -.01]. These results support the hypothesis that expressive suppression would partially mediate the relationship between nonjudgmental attitudes and anger (hypothesis 6). The directional relationship in this mediator model was examined by reversing the independent and dependent variables in another mediator model, so that nonjudgmental attitudes about emotions was the dependent variable and anger was the independent variable. Expressive suppression did not mediate the effect of depression on nonjudgmental attitudes.

DISCUSSION

Traditional CBT and third-wave CBT are widely used treatment approaches for various clinical disorders. Although these therapies share some similar features, they address thoughts and emotions in unique ways. Specifically, traditional CBT and REBT emphasize modifying irrational beliefs and cognitive distortions to reduce negative emotions, whereas ACT emphasizes that thoughts and beliefs do not cause behaviors, and acceptance of thoughts and emotions promotes psychological flexibility and the ability to pursue behaviors that achieve valued ends (Ruiz, 2012; Arch et al., 2012). These differences reflect distinct philosophical traditions that shape these therapies. Stoic philosophy is foundational to traditional CBT, namely REBT, and Eastern philosophical traditions have influenced the development of third-wave CBT, including ACT. The present study addressed beliefs about emotions (emotion beliefs) that each therapy emphasizes.

There are many different types of emotion beliefs that have recently been explored in the psychology literature. Ford and Gross (2018) offer a framework for conceptualizing emotion beliefs by categorizing emotion beliefs in two superordinate categories: beliefs about whether emotions are controllable or uncontrollable (emotion controllability beliefs) and beliefs about whether emotions are good or bad (emotion values). There is theoretical and empirical support that suggests that emotion regulation mediates the relationship between emotion beliefs and emotion outcomes (Ford & Gross, 2019; Kneeland et al., 2016a; Ortner & Pennekamp, 2020). Research supports that emotion regulation impacts psychological functioning; however, little research has examined predictors of emotion regulation (e.g., emotion regulation strategies selected; Wilson,

2019). Moreover, there is little research investigating relationships between emotion beliefs and various types of emotions.

This study addressed these research gaps and explored emotion beliefs across a range of emotions, including depression, anxiety, and anger. Specifically, this study examined associations between emotion beliefs and depression, anxiety, and anger, and examine if emotion beliefs predicted these different emotions. It was predicted that emotion controllability beliefs would be negatively correlated with depression, anxiety, and anger scores (hypothesis 1). The results of this study supported this hypothesis, as emotion controllability beliefs were significantly negatively correlated with depression, anxiety, and anger scores. These results suggest that malleable emotion controllability beliefs are associated with positive psychological health in various emotion domains, including depression, anxiety, and anger. These findings are consistent with some aspects of a Stoic philosophy of emotions that is foundational to traditional CBT, including REBT. That is more specifically, the idea that individuals can control emotional responses by changing irrational thinking, which can lead to decreases in dysfunctional emotions.

It was also predicted that nonjudgmental attitudes about emotions would be negatively associated with depression, anxiety, and anger scores (hypothesis 2). The results of the study supported this hypothesis, as nonjudgmental attitudes about emotions were significantly negatively correlated with depression, anxiety, and anger scores. These results suggest that an acceptance-based approach to emotions might be relevant to positive psychological health in various emotional experiences, including depression, anxiety, and anger. These findings are theoretically consistent with theories of emotion

underlying third-wave CBT interventions; namely, acceptance of emotions can improve psychological well-being.

It was predicted that emotion control values would be negatively associated with depression, anxiety, and anger scores (hypothesis 3). The results of this study did not support this hypothesis; emotion control values did not significantly correlate with depression, anxiety, or anger. This hypothesis examined emotion beliefs that are theoretically consistent with third-wave CBT interventions; namely, efforts to control negative emotions can lead to increased experiences of negative emotions. It is possible that the measure used in the present study conflated efforts to control the experience of negative emotions with efforts to control the expression of negative emotions, which might have different associations with emotion experiences and well-being. The measure of emotion control values used in the present study consisted of more items representing the control of emotion expression than the control of emotion experiences. It is possible that the tendency to modulate emotion expression is adaptive in a range of circumstances and is valued by certain cultural or ethnic groups (Mauss et al., 2010). The ability to modify emotional expressions might enable people to adapt flexibly to situational demands in situations that might be rewarded or fulfilled (Keltner & Haidt, 1999; Côté et al., 2010). Côté and colleagues (2010) found that the ability to deliberately down-regulate and up-regulate emotional reactions, as assessed objectively in a laboratory setting, was associated with positive well-being and high socioeconomic status. It is possible that people who conform to display rules in various settings are rewarded, whereas failing to conform to these rules can have costs. Future research should further examine differences between effective versus noneffective emotion control. In addition, future studies should

distinguish between valuing control emotional experiences versus emotional expressions, as these distinct emotion beliefs might have unique relationships with depression, anxiety, and anger.

The present study also included an exploratory analysis to compare statistically significant correlation coefficients between different emotion beliefs and emotion domains. The purpose of this analysis was to identify if relationships between particular emotion beliefs are significantly more correlated with emotion outcomes in comparison to other emotion beliefs. These results demonstrated that nonjudgmental beliefs about emotions had a significantly stronger correlation with depression than did emotion controllability beliefs. Nonjudgmental beliefs had a stronger correlation with anxiety than did emotion controllability beliefs. Finally, nonjudgmental beliefs had a stronger correlation with anger than did emotion controllability beliefs. These results suggest that nonjudgmental attitudes about emotions have a stronger relationship with depression, anxiety, and anger than emotion controllability beliefs, and these beliefs might be an important psychotherapy target. Future research should use experimental paradigms to identify if one of these emotion beliefs is a more important mechanism of change for different emotion domains (i.e., compare interventions for emotion controllability beliefs and nonjudgmental attitudes about emotions).

It was also predicted that emotion controllability beliefs, nonjudgmental attitudes about emotions, and emotion control values would significantly predict depression, anxiety, and anger scores (hypothesis 4). This hypothesis was partially supported. When controlling for relevant demographics (age, gender, and data source), emotion controllability beliefs and nonjudgmental attitudes were significant negative predictors of

depression. Emotion control values did not predict depression. When respondents endorsed malleable emotion controllability beliefs and nonjudgmental attitudes about emotions, they were more likely to endorse lower depression symptoms.

When controlling for demographic variables, emotion controllability beliefs, nonjudgmental attitudes, and emotion control values were significant negative predictors of anxiety. When respondents endorsed malleable emotion controllability beliefs and nonjudgmental attitudes about emotions, they were more likely to endorse lower anxiety symptoms. When respondents endorsed that they valued controlling emotions, they were more likely to endorse lower anxiety. The direction of the relationship between emotion control values and anxiety was the opposite of the predicted relationship. This is surprising given findings from past research examining emotion control and anxiety disorders, namely social anxiety disorder. Past research demonstrates that individuals with social anxiety endorse valuing emotion control (Goodman et al., 2020; Farmer & Kashdan, 2012). When controlling for demographic variables, emotion controllability beliefs and nonjudgmental attitudes were negative predictors of anger. Emotion controllability values did not predict anger. These findings suggest that general emotion beliefs, particularly emotion controllability beliefs and nonjudgmental attitudes about emotions, influence a range of emotion experiences and clinical outcomes.

Emotion controllability beliefs might have implications for emotion regulation, which is central to psychopathology. The extended process model of emotion regulation posits that there are three sequential valuation stages involved in the emotion regulation process (Tull et al., 2020; Sheppes et al., 2015). The first stage is identification, which involves emotion detection, evaluation, and decision to regulate emotions. The second phase is

selection, which involves the identification of emotion regulation strategies, predicting the success of strategies, and the decision to implement a strategy. The third phase is implementation and involves choosing and implementing a strategy and translating it into specific behaviors. Sheppes and colleagues (2015) postulate that emotion beliefs might be particularly relevant in the identification stage of emotion regulation. Fixed emotion controllability beliefs might be associated with negatively valuing a regulated state and deciding not to actively engage in emotion regulation. Evaluating emotions as bad might increase the likelihood of identifying the need to regulate at this initial stage (Ford & Gross, 2019).

The present study examined the relationship between emotion beliefs and different emotions and the potential mediating role of dispositional tendencies to emotion regulation. My prediction was that cognitive reappraisal and expressive suppression would partially mediate the relationship between emotion controllability beliefs and emotion outcomes (depression, anxiety, and anger; hypothesis 5). My other prediction was that cognitive reappraisal and expressive suppression would partially mediate the relationship between nonjudgmental attitudes towards emotions and emotion outcomes (depression, anxiety, and anger scores; hypothesis 6). These hypotheses were partially supported. The effect of emotion controllability beliefs on depression was partially mediated by cognitive reappraisal but was not mediated by expressive suppression. The effect of nonjudgmental attitudes on depression was partially mediated by cognitive reappraisal but was not mediated by expressive suppression. Specifically, malleable emotion controllability beliefs and nonjudgmental attitudes about emotions predicted a greater tendency to engage in cognitive reappraisal and lower depression.

The effect of emotion controllability beliefs on anxiety was partially mediated by cognitive reappraisal but was not mediated by expressive suppression. The effect of nonjudgmental attitudes on anxiety was partially mediated by cognitive reappraisal but was not mediated by expressive suppression. Specifically, malleable emotion controllability beliefs and nonjudgmental attitudes about emotions predicted a greater tendency to engage in cognitive reappraisal and lower anxiety. These findings support hypotheses that individuals with malleable emotion controllability beliefs might engage in early-stage, active emotion regulation strategies like cognitive reappraisal to regulate anxiety and sadness. These findings also support that individuals with nonjudgmental attitudes about emotions might tend to engage in antecedent-focused emotion regulation strategies. It is possible that emotion beliefs impact emotion regulation at an early stage of the emotion generative process, and they might not consistently predict response-focused emotion regulation strategies in response to depression and anxiety, including expressive suppression (Gross, 2015; Kneeland et al., 2016a).

The relationships between emotion beliefs and anger are markedly different than those between emotion beliefs, depression, and anxiety. The effect of emotion controllability beliefs on anger was not mediated by cognitive reappraisal or expressive suppression, although there was a significant direct effect of emotion controllability beliefs on anger. Nonjudgmental attitudes on anger were mediated by expressive suppression but not cognitive reappraisal. Specifically, nonjudgmental attitudes negatively predicted the tendency to use expressive suppression and anger. Further research should explore relationships between emotion beliefs and anger and the mechanisms by which emotion beliefs have on influencing anger. It is possible that

emotion beliefs might predict other emotion regulation strategies that down-regulate anger, including interpersonal emotion regulation skills. Future research should examine relationships between emotion beliefs, anger, and a larger repertoire of emotion regulation strategies.

The present study demonstrates that both emotion controllability beliefs and nonjudgmental attitudes about emotions predict depression, anxiety, and anger. In sum, emotion beliefs that are theoretically relevant to traditional CBT, including REBT, and emotion beliefs that are relevant to third wave CBT, including ACT, similarly predict psychological distress in a range of emotion domains. It is possible that both of these emotion beliefs are important targets in psychotherapy and other interventions. CBT addresses and aims to improve the execution of emotion regulation strategies (Sheppes et al., 2015). It is possible that identifying and challenging fixed emotion controllability beliefs and judgmental attitudes about emotions in psychotherapy would engender increased willingness to engage in CBT interventions and implement CBT strategies. Moreover, future research should examine brief interventions that target emotion controllability beliefs and nonjudgmental attitudes about emotions. Research on implicit beliefs of intelligence indicates that simple, short-term interventions can have long-lasting effects (Aronson et al., 2002; Good et al., 2003; Blackwell et al., 2007; De Castella et al., 2013). For example, some research has demonstrated that interventions including workshops and teaching modules can be valuable in teaching incremental theories of intelligence and changing individuals' theories of intelligence. Future research should examine the development and effectiveness of brief interventions for emotion beliefs.

The ability to navigate different emotions that arise is a marker of psychological health and well-being (Kneeland et al., 2016b). Difficulty regulating emotions has been associated with depression, chronic worry, and substance use. Moreover, research and theory support that emotion regulation is a transdiagnostic process that is the core of multiple forms of psychopathology (Aldao et al., 2016; Wilson, 2019). Malleable emotion controllability beliefs and nonjudgmental attitudes might change the way individuals think about emotion-eliciting events (cognitive reappraisal), which might subsequently reduce depression or anxiety. Although the present study elucidates one way emotion beliefs might impact depression and anxiety (via cognitive appraisal), how emotion beliefs operate in relation to anger is less clear. Future research should further examine the directionality of the relationship between emotion beliefs and anger.

Limitations and Future Directions

In future research, it would be beneficial to replicate this study in clinical populations with depression, anxiety, or anger problems. Additionally, it would be important to examine how the relationship between emotion beliefs and emotion outcomes might be moderated by cultural factors. In Western or individualist cultures, high arousal emotions are promoted, and in Eastern or collectivist cultures, low arousal emotions are valued (Lim, 2016). These values might have implications for both emotion experiences and motivation to engage in emotion regulation. Moreover, the expression of emotions can be disruptive to social harmony and might demonstrate assertiveness (Ford & Mauss, 2015). Cultural factors, including collectivism, individualism, and gender identity should be further examined in relation to emotion beliefs.

One limitation of this study is that dispositional tendencies related to emotion and emotion regulation are assessed, which assume that individuals use certain emotion regulation strategies consistently across different contexts. However, it is possible that a range of factors influence emotion regulation within a short time frame, including interpersonal and situational factors (Lavendar et al., 2017). Although past research supports that there are reliable differences in trait emotion regulation between individuals and that these differences predict patterns of psychopathology, contextual factors can influence implementation of emotion regulation strategies (Maxwell et al., 2018). The present study examined participants' general tendencies to regulate emotions, but the study was limited by not accounting for variability over time and situational factors. Another limitation of this study was that these data were correlational. Experimental designs examining emotion beliefs, emotion regulation, and emotion outcomes might more adequately inform the direction the relationships examined.

Table 1

Intercorrelations for dependent variables.

Variable	Mean	SD	1	2	3	4	5	6	7
1. Emotion controllability beliefs	14.17	3.12	-	-	-	-	-	-	-
2. Nonjudgmental attitudes	24.90	7.53	.33**	-	-	-	-	-	-
3. Emotion control values	2.97	0.95	-.05	-.07	-	-	-	-	-
4. Depression	16.62	6.57	-.31**	-.56**	-.06	-	-	-	-
5. Anxiety	14.14	6.11	-.36**	-.58***	-.07	.78**	-	-	-
6. Anger	33.57	10.71	-.41**	-.52***	.05	.52***	.57**	-	-
7. Cognitive Reappraisal	28.98	7.38	.40**	.18**	-.14**	-.26**	-.30**	-.18**	-
8. Expressive Suppression	15.09	4.97	-.10	-.23**	.33	.20**	.17**	.29**	-.05

** $p < .001$

Table 2

Hierarchical multiple regression predicting depression from age, gender, data source, emotion controllability beliefs, nonjudgmental attitudes about emotions, and emotion control values.

Predictor Variables	*B*	*S.E. B*	*ß*	*R²*	Adj. *R²*	*F* for change in *R²*
Model 1				.09	.08	6.17***
Age**	-.15	.05	-.25			
Mturk	-.71	1.54	-.04			
Social media	1.96	1.30	.10			
Male	-4.46	2.68	-.30			
Female	-3.14	2.61	-.22			
Model 2				.37	.35	42.62***
Age	-.02	.05	-.04			
Mturk	-1.18	1.30	-.07			
Social media	.15	1.11	.01			
Male	-3.33	2.26	-.22			
Female	-2.04	2.20	-.14			
Emotion controllability beliefs*	-.26	.11	-.12			
Nonjudgmental attitudes***	-.44	.05	-.50			
Emotion control values	-.58	.32	-.09			

*Note. B = Unstandardized regression coefficient. S.E. = Standard Error. ß = Standardized regression coefficient. * p < .05, **p < .01, ***p < .001.*

Table 3

Hierarchical multiple regression predicting anxiety from age, gender, data source, emotion controllability beliefs, nonjudgmental attitudes about emotions, and emotion control values.

Predictor Variables	*B*	*S.E. B*	*ß*	R^2	Adj. R^2	*F* for change in R^2
Model 1				.10	.09	6.81***
Age***	-.17	.05	-.30			
Mturk	.01	1.43	.00			
Social media	1.56	1.20	.09			
Male	-4.27	2.48	-.31			
Female	-3.26	2.42	-.24			
Model 2				.40	.39	49.76***
Age	-.05	.04	-.10			
Mturk	-.41	1.17	-.03			
Social media	-.10	1.00	-.01			
Male	-2.98	2.05	-.21			
Female	-2.15	1.99	-.16			
Emotion controllability beliefs***	-.34	.10	-.18			
Nonjudgmental attitudes***	-.40	.04	-.50			
Emotion control values*	-.63	.29	-.10			

Note. B = Unstandardized regression coefficient. S.E. = Standard Error. ß = Standardized regression coefficient. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 4

Hierarchical multiple regression predicting anger from age, gender, data source, emotion controllability beliefs, nonjudgmental attitudes about emotions, and emotion control values.

Predictor Variables	*B*	*S.E. B*	*ß*	*R²*	Adj. *R²*	*F* for change in *R²*
Model 1				.05	.04	3.45**
Age***	-.33	.09	-.34			
Mturk	4.99	2.57	.18			
Social media*	4.67	2.16	.15			
Male	-4.23	4.46	-.17			
Female	-4.83	4.35	-.20			
Model 2				.35	.34	46.12***
Age*	-.16	.08	-.17			
Mturk*	4.56	2.14	.16			
Social media	2.39	1.83	.08			
Male	-1.42	3.73	-.06			
Female	-2.56	3.62	-.11			
Emotion controllability beliefs***	-.99	.17	-.29			
Nonjudgmental attitudes***	-.58	.08	-.41			
Emotion control values	-.05	.53	-.01			

Note. B = Unstandardized regression coefficient. S.E. = Standard Error. ß = Standardized regression coefficient. *p < .05, **p < .01, ***p < .001.
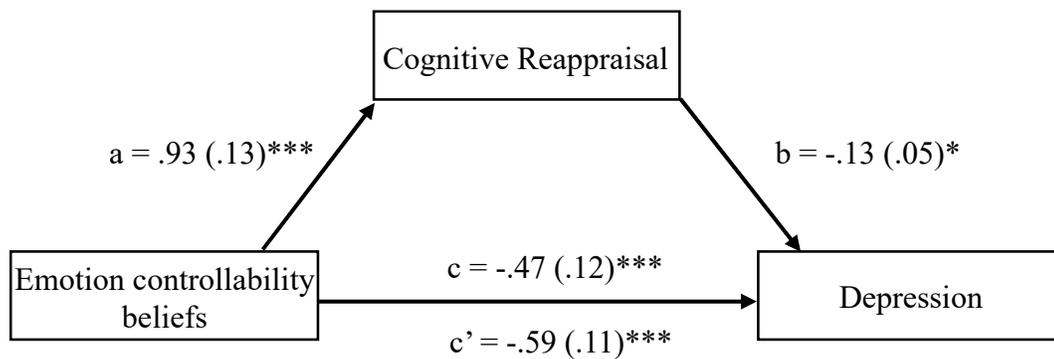
Figure 1

Mediation model 1; a, b, c and c' are path coefficients representing unstandardized regression weights and standard errors (in parentheses). The dependent variable of depression, independent variable of emotion controllability beliefs, and mediator of cognitive reappraisal. The c path coefficient represents the total effect of emotion controllability beliefs on depression. The c-prime path coefficient refers to the direct effect of emotion controllability beliefs on depression. *p<.05, **p<.01, ***p<.001.
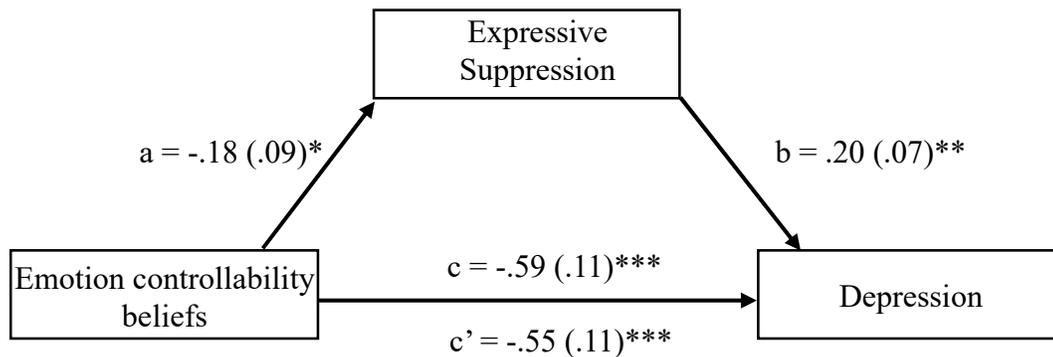
Figure 2

Mediation model 2; a, b, c and c' are path coefficients representing unstandardized regression weights and standard errors (in parentheses). The dependent variable of depression, the independent variable of emotion controllability beliefs, and the mediator of expressive suppression. The c path coefficient represents the total effect of emotion controllability beliefs on depression. The c-prime path coefficient refers to the direct effect of emotion controllability beliefs on depression. *p<.05, **p<.01, ***p<.001.

Figure 3

Mediation model 3; a, b, c and c' are path coefficients representing unstandardized regression weights and standard errors (in parentheses). Dependent variable of depression, independent variable of nonjudgmental attitudes about emotions, and mediator of cognitive reappraisal. The c path coefficient represents the total effect of nonjudgmental attitudes on depression. The c-prime path coefficient refers to the direct effect of nonjudgmental attitudes on depression. *p<.05, **p<.01, ***p<.001.
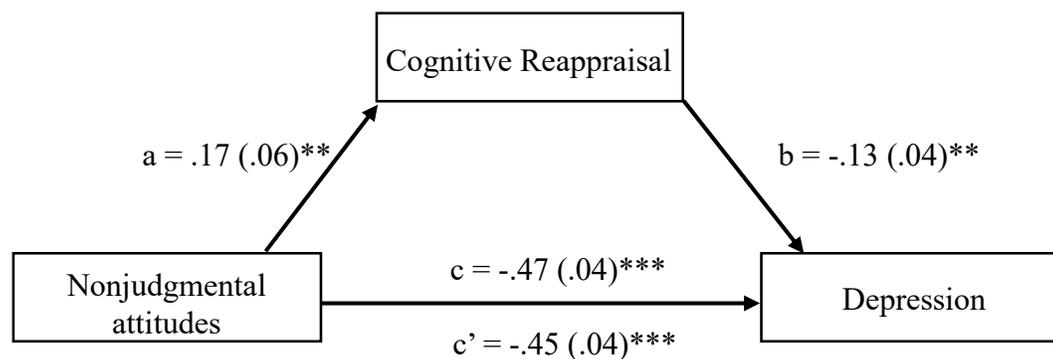
Figure 4

Mediation model 4; a, b, c and c' are path coefficients representing unstandardized regression weights and standard errors (in parentheses). Dependent variable of depression, independent variable of nonjudgmental attitudes about emotions, and mediator of expressive suppression. The c path coefficient represents the total effect of nonjudgmental attitudes on depression. The c-prime path coefficient refers to the direct effect of nonjudgmental attitudes on depression. *p<.05, **p<.01, ***p<.001.
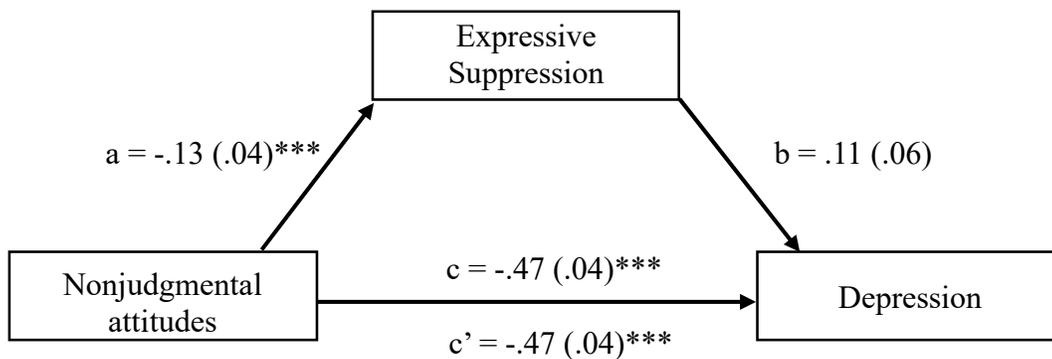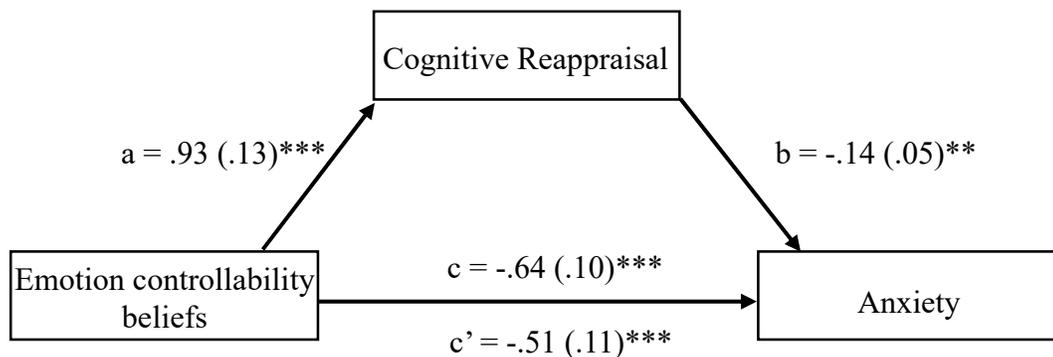
Figure 5

Mediation model 5; a, b, c and c' are path coefficients representing unstandardized regression weights and standard errors (in parentheses). Dependent variable of anxiety, independent variable of emotion controllability beliefs, and mediator of cognitive reappraisal. The c path coefficient represents the total effect of emotion controllability beliefs on anxiety. The c-prime path coefficient refers to the direct effect of emotion controllability beliefs on anxiety. *p<.05, **p<.01, ***p<.001.

Cognitive Reappraisal

a = .93 (.13)***

b = -.14 (.05)**

Emotion controllability beliefs

c = -.64 (.10)***

c' = -.51 (.11)***

Anxiety

Figure 6

Mediation model 6; a, b, c and c' are path coefficients representing unstandardized regression weights and standard errors (in parentheses). Dependent variable of anxiety, independent variable of emotion controllability beliefs, and mediator of expressive suppression. The c path coefficient represents the total effect of emotion controllability beliefs on anxiety. The c-prime path coefficient refers to the direct effect of emotion controllability beliefs on anxiety. *p<.05, **p<.01, ***p<.001.

Expressive Suppression

a =-.18 (.09)*

b = .14 (.07)*

Emotion controllability beliefs

c = -.64 (.10)***
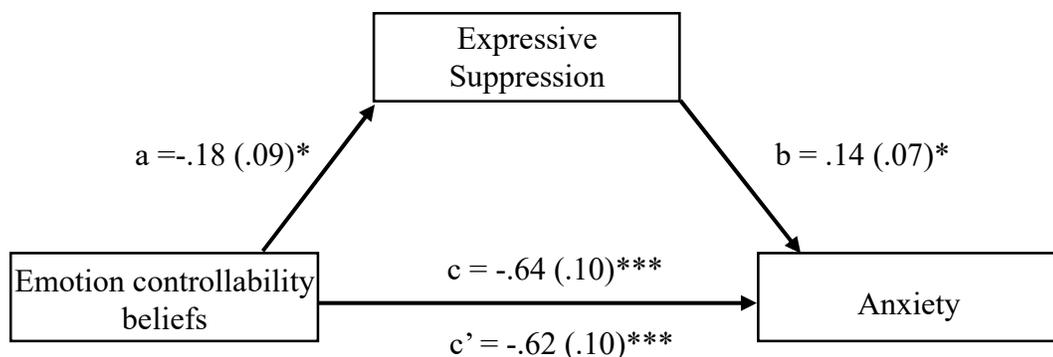
c' = -.62 (.10)***

Anxiety

Figure 7

Mediation model 7; a, b, c and c' are path coefficients representing unstandardized regression weights and standard errors (in parentheses). Dependent variable of anxiety, independent variable of nonjudgmental attitudes about emotions, and mediator of cognitive reappraisal. The c path coefficient represents the total effect of nonjudgmental attitudes on anxiety. The c-prime path coefficient refers to the direct effect of nonjudgmental attitudes on anxiety. *p<.05, **p<.01, ***p<.001.
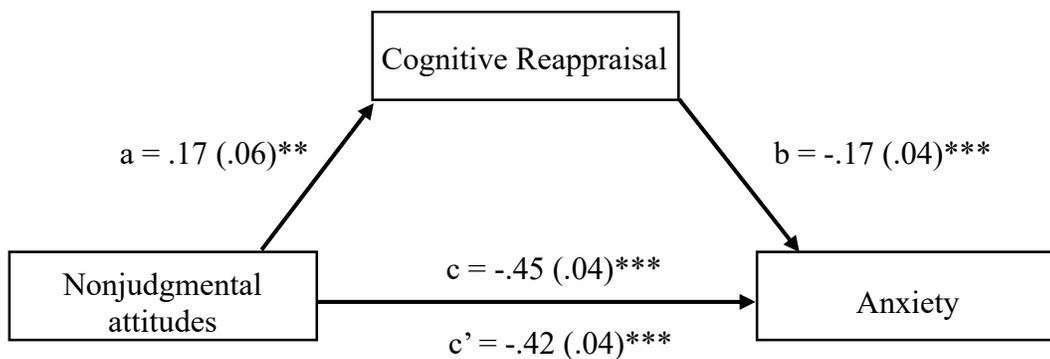

Figure 8

Mediation model 8; a, b, c and c' are path coefficients representing unstandardized regression weights and standard errors (in parentheses). Dependent variable of anxiety, independent variable of nonjudgmental attitudes about emotions, and mediator of expressive suppression. The c path coefficient represents the total effect of nonjudgmental attitudes on anxiety. The c-prime path coefficient refers to the direct effect of nonjudgmental attitudes on anxiety. *p<.05, **p<.01, ***p<.001.

Figure 9

Mediation model 9; a, b, c and c' are path coefficients representing unstandardized regression weights and standard errors (in parentheses). Dependent variable of anger, independent variable of emotion controllability beliefs, and mediator of cognitive reappraisal. The c path coefficient represents the total effect of emotion controllability beliefs on anger. The c-prime path coefficient refers to the direct effect of emotion controllability beliefs on anger. *p<.05, **p<.01, ***p<.001.
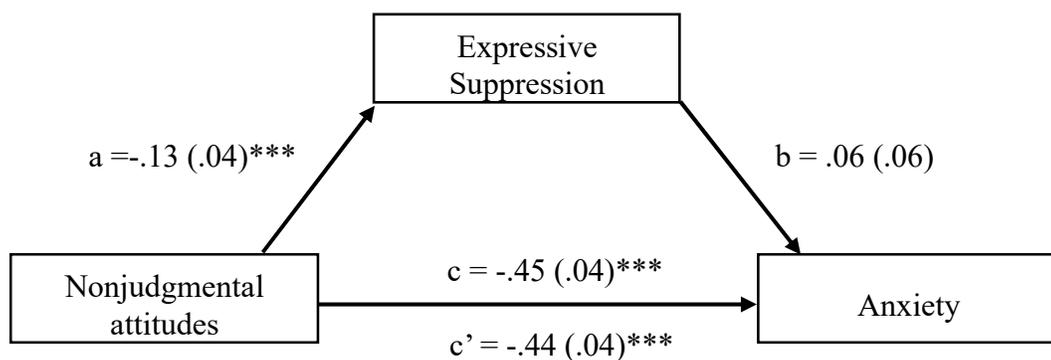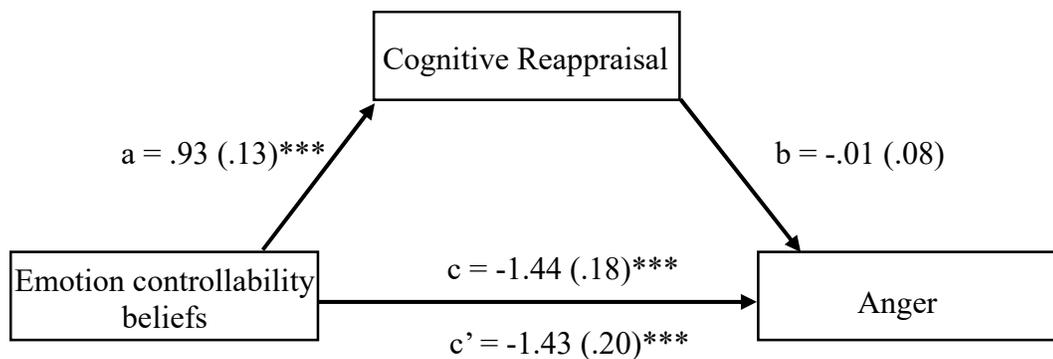

Figure 10

Mediation model 10; a, b, c and c' are path coefficients representing unstandardized regression weights and standard errors (in parentheses). Dependent variable of anger, independent variable of emotion controllability beliefs, and mediator of expressive suppression. The c path coefficient represents the total effect of emotion controllability beliefs on anger. The c-prime path coefficient refers to the direct effect of emotion controllability beliefs on anger. *p<.05, **p<.01, ***p<.001.

Figure 11

Mediation model 11; a, b, c and c' are path coefficients representing unstandardized regression weights and standard errors (in parentheses). Dependent variable of anger, independent variable of nonjudgmental attitudes about emotions, and mediator of cognitive reappraisal. The c path coefficient represents the total effect of nonjudgmental attitudes on anger. The c-prime path coefficient refers to the direct effect of nonjudgmental attitudes on anger. *p<.05, **p<.01, ***p<.001.

```
                    ┌──────────────────────┐
                    │ Cognitive Reappraisal │
                    └──────────────────────┘
        a = .17 (.06)**                b = -.13 (.07)

┌──────────────┐   c = -.73 (.07)***    ┌──────────┐
│ Nonjudgmental │ ─────────────────────→ │  Anger   │
│  attitudes    │                        │          │
└──────────────┘   c' = -.71 (.07)***    └──────────┘
```
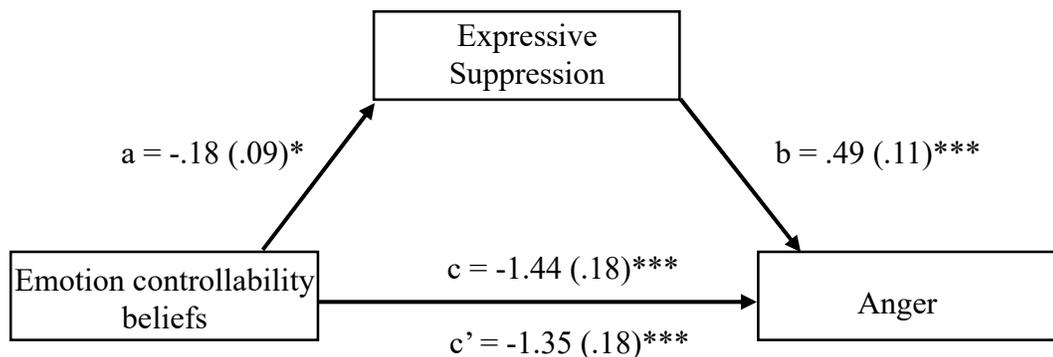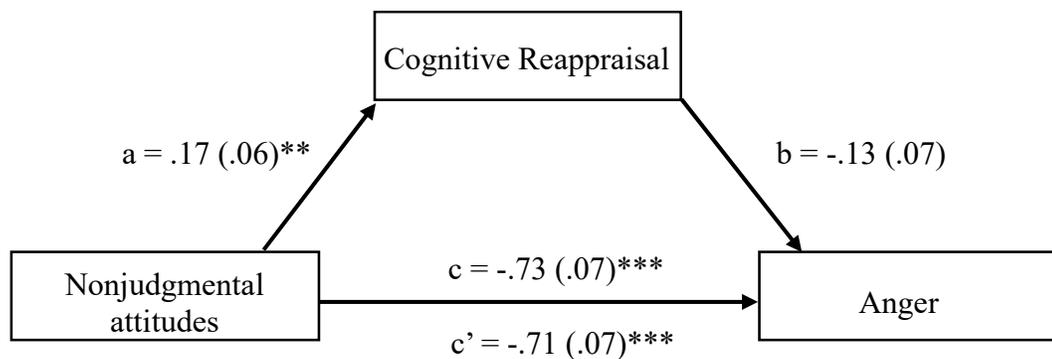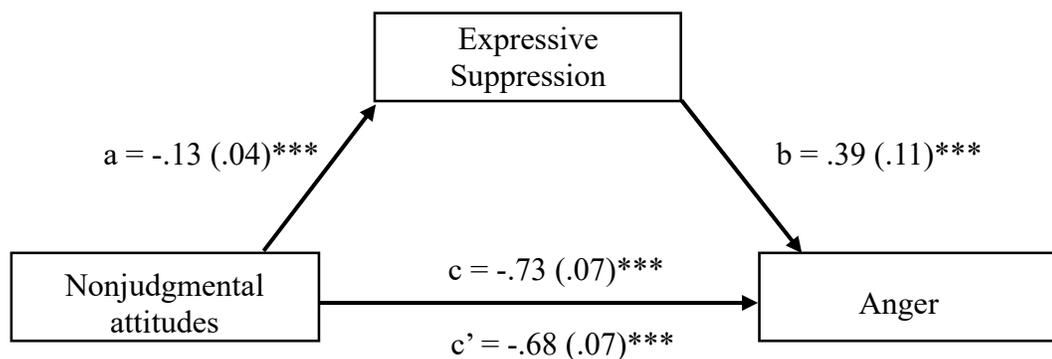
Figure 12

Mediation model 12; a, b, c and c' are path coefficients representing unstandardized regression weights and standard errors (in parentheses). Dependent variable of anger, independent variable of nonjudgmental attitudes about emotions, and mediator of expressive suppression. The c path coefficient represents the total effect of nonjudgmental attitudes on anger. The c-prime path coefficient refers to the direct effect of nonjudgmental attitudes on anger. *p<.05, **p<.01, ***p<.001.

```
                    ┌──────────────────────┐
                    │      Expressive       │
                    │     Suppression       │
                    └──────────────────────┘
     a = -.13 (.04)***              b = .39 (.11)***

┌──────────────┐   c = -.73 (.07)***    ┌──────────┐
│ Nonjudgmental │ ─────────────────────→ │  Anger   │
│  attitudes    │                        │          │
└──────────────┘   c' = -.68 (.07)***    └──────────┘
```

References

Aldao, A., Gee, D. G., De Los Reyes, A., & Seager, I. (2016). Emotion regulation as a transdiagnostic factor in the development of internalizing and externalizing psychopathology: Current and future directions. *Development and Psychopathology, 28*, 927-946. doi:10.1017/S0954579416000638

Arch, J. J., Eifert, G. H., Davies, C., Plumb Vilardaga, J. C., Rose, R. D., & Craske, M. G. (2012). Randomized clinical trial of cognitive behavioral therapy (CBT) versus acceptance and commitment therapy (ACT) for mixed anxiety disorders. *Journal of consulting and clinical psychology, 80*(5), 750–765. https://doi.org/10.1037/a0028310

Aronson, J., Fried, C., & Good, C. (2002). Reducing the effects of stereotype threat on African American college students by shaping theories of intelligence. *Journal of Experimental Social Psychology, 38*, 113–125. doi:10.1006/jesp.2001.1491

Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment, 13,* 27–45. doi:10.1177/1073191105283504

Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development, 78*, 246-263. doi: 10.1111/j.1467-8624.2007.00995.x

Côté, S., Gyurak, A., & Levenson, R. W. (2010). The ability to regulate emotion is associated with greater well-being, income, and socioeconomic status. *Emotion (Washington, D.C.), 10*(6), 923–933. https://doi.org/10.1037/a0021156

De Castella, K., Goldin, P., Jazaieri, H., Ziv, M., Dweck, C. S., & Gross, J. J. (2013).

Beliefs about emotion: Links to emotion regulation, well-being, and

psychological distress. *Basic and Applied Social Psychology, 35*(6), 497–505.

doi:10.1080/01973533.2013.840632

De Castella, K., Goldin, P., Jazaieri, H., Ziv, M., Heimberg, R. G., & Gross, J. J. (2014).

Emotion beliefs in social anxiety disorder: Associations with stress, anxiety, and

well-being. *Australian Journal of Psychology, 66,* 139–148.

doi:10.1111/ajpy.12053

De Castella, K., Goldin, P., Jazaieri, H., Heimberg, R. G., Dweck, C. S., & Gross J. J.

(2015) Emotion beliefs and cognitive behavioural therapy for social anxiety

disorder. *Cognitive Behaviour Therapy, 44*(2), 128-141. DOI:

10.1080/16506073.2014.974665

De Castella, K., Platow, M. J., Tamir, M., & Gross, J. J. (2018) Beliefs about emotion:

implications for avoidance-based emotion regulation and psychological health.

Cognition and Emotion, 32(4), 773-795. DOI: 10.1080/02699931.2017.1353485

De France, K., & Evans, G. W. (2021). Expanding context in the role of emotion

regulation in mental health: How socioeconomic status (SES) and developmental

stage matter. *Emotion, 21*(4)*,* 772-782.

DiGiuseppe, R., & Tafrate, R. C. (2004). *Anger Disorders Scale: Manual.* Toronto,

Ontario, Canada: Multi-Health Systems.

DiGiuseppe, R. A., Doyle, K. A., Dryden, W., & Backx, W. (2014). A practitioner's

guide to rational emotive behavior therapy (3rd ed.). Oxford University Press.

Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and

    personality. Psychological Review, 95(2), 256–273. https://doi.org/10.1037/0033-

    295X.95.2.256

Farmer, A. S., & Kashdan, T. B. (2012). Social anxiety and emotion regulation in daily

    life: spillover effects on positive and negative social events. *Cognitive behaviour*

    therapy, 41(2), 152–162. https://doi.org/10.1080/16506073.2012.666561

Ford, B. Q., & Gross, J. J. (2018). Emotion regulation: Why beliefs matter. *Canadian*

    Psychology/Psychologie canadienne, 59(1), 1–14.

    https://doi.org/10.1037/cap0000142

Ford, B. Q., & Gross, J. J. (2019). Why beliefs about emotion matter: An emotion-

    regulation perspective. *Current Directions in Psychological Science, 28*(1), 74–

    81. https://doi.org/10.1177/0963721418806697

Ford, B. Q., Lam, P., John, O. P., & Mauss, I. B. (2017). The Psychological Health

    Benefits of Accepting Negative Emotions and Thoughts: Laboratory, Diary, and

    Longitudinal Evidence. *Journal of Personality and Social Psychology*. Advance

    online publication. http://dx.doi.org/10.1037/pspp0000157

Ford, B. Q., & Mauss, I. B. (2015). Culture and emotion regulation. *Current opinion in*

    psychology, 3, 1–5. https://doi.org/10.1016/j.copsyc.2014.12.004

Good, C., Aronson, J., & Inzlicht, M. (2003). Improving adolescents' standardized test

    performance: An intervention to reduce the effects of stereotype threat. *Journal of*

    Applied Developmental Psychology, 24, 645-662.

    doi:10.1016/j.appdev.2003.09.002

Goodman, F. R., Kashdan, T. B., & İmamoğlu, A. (2020). Valuing emotional control in social anxiety disorder: A multimethod study of emotion beliefs and emotion regulation. *Emotion.* Advance online publication. http://dx.doi.org/10.1037/emo0000750

Gratz K. L., & Roemer L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology Behavioral Assessment, 26*(1), 41–54.

Gratz, K. L., & Tull, M. T. (2010). *Emotion regulation as a mechanism of change in acceptance- and mindfulness-based treatments.* In R. A. Baer (Ed.), *Assessing mindfulness and acceptance processes in clients: Illuminating the theory and practice of change* (p. 107–133). Context Press/New Harbinger Publications.

Graver, M. (2007). *Stoicism and Emotion.* Chicago: University of Chicago Press.

Gross, J. J. (1998). Antecedent- and response-focused emotion regulation: divergent consequences for experience, expression, and physiology. *Journal of Personality and Social Psychology, 74,* 224-237.

Gross, J. J. (2002). Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology, 39,* 281-291.

Gross, J. J. (2015). Emotion regulation: Current status and future prospects. *Psychological Inquiry, 26*, 1-26.

Gross, J.J., & John, O.P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85*, 348-362.

Hayes, S. C., Strosahl, K., & Wilson, K. G. (1999). *Acceptance and commitment therapy: Understanding and treating human suffering.* New York: Guilford.

Herman-Stahl, M. A., Stemmler, M., & Petersen, A. C. (1995). Approach and avoidant coping: Implications for adolescent mental health. Journal of Youth and Adolescence, 24(6), 649-665. doi: 10.1007/BF01536949

Kappes, A., & Schikowski, A. (2013). Implicit theories of emotion shape regulation of negative affect. *Cognition and Emotion, 27*(5), 952–960. https://doi.org/10.1080/02699931.2012.753415

Keltner D., & Haidt, J. (1999). Social functions of emotions at multiple levels of analysis. *Cognition and Emotion, 13*, 505–522.

Kneeland, E. T., Dovidio, J. F., Joormann, J., & Clark, M. S. (2016a). Emotion malleability beliefs, emotion regulation, and psychopathology: Integrating affective and clinical science. *Clinical Psychological Review, 45,* 81-88.

Kneeland, E. T., Nolen-Hoeksema, S., Dovidio, J. F., & Gruber, J. (2016b). Beliefs about emotion's malleability influence state emotion regulation. *Motivation and Emotion*, *40*, 740-749.

Kohl, A., Rief, W., & Glombiewski, J. A. (2012). How effective are acceptance strategies? A meta-analytic review of experimental results. Journal of Behavior Therapy and Experimental Psychiatry, 43, 988– 1001. http://dx.doi.org/10.1016/j.jbtep.2012.03.004

Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: validity of a brief depression severity measure. *Journal of General Internal Medicine, 16*(9), 606– 613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x

Kroenke, K., Spitzer, R. L., Williams, J. B., Monahan, P. O., & Löwe, B. (2007). Anxiety

    disorders in primary care: prevalence, impairment, comorbidity, and detection.

    Annals of internal medicine, 146(5), 317–325. https://doi.org/10.7326/0003-4819-

    146-5-200703060-00004

Kvaale, E. P., Haslam, N., & Gottdiener, W. H. (2013). The 'side effects' of

    medicalization: A meta-analytic review of how biogenetic explanations affect

    stigma. *Clinical Psychology Review, 33*(6), 782-794.

    https://doi.org/10.1016/j.cpr.2013.06.002

Lavender, J. M., Tull, M. T., DiLillo, D., Messman-Moore, T., & Gratz, K. L. (2017).

    Development and Validation of a State-Based Measure of Emotion Dysregulation.

    *Assessment, 24(*2), 197–209. https://doi.org/10.1177/1073191115601218

Lim N. (2016). Cultural differences in emotion: differences in emotional arousal level

    between the East and the West. *Integrative medicine research, 5*(2), 105–109.

    https://doi.org/10.1016/j.imr.2016.03.004

Löwe, B., Decker, O., Müller, S., Brähler, E., Schellberg, D., Herzog, W., & Herzberg, P.

    Y. (2008). Validation and standardization of the Generalized Anxiety Disorder

    Screener (GAD-7) in the general population. *Medical Care, 46*(3), 266–274.

    https://doi-org.jerome.stjohns.edu/10.1097/MLR.0b013e318160d093

Martin , R. C., & Dahl E. R. (2007). The angry cognitions scale: A new inventory for

    assessing cognitions and anger. *Journal of Rational-Emotive & Cognitive-*

    Behavior Therapy 25(3), 155-173.

Matweychuk, W., DiGiuseppe, R., & Gulyayeva, O. (2019). *A comparison of REBT with other cognitive behavior therapies.* In M. E. Bernard & W. Dryden (Eds.), *Advances in REBT* (pp. 47–77). Cham: Springer.

Mauss, I. B., Butler, E. A., Roberts, N. A., & Chu, A. (2010). Emotion Control Values and Responding to an Anger Provocation in Asian-American and European-American Individuals. *Cognition & emotion*, *24*(6), 1026–1043. https://doi.org/10.1080/02699930903122273

Maxwell, R., Lynn, S. J., & Strauss, G. P. (2018). Trait emotion regulation predicts individual differences in momentary emotion and experience. *Imagination, Cognition, and Personality: Consciousness in Theory, Research, and Clinical Practice, 0*(0), 1-29.

Mogoase C., & Stefan S. (2013). Is there a difference between functional and dysfunctional negative emotions? The preliminary validation of the functional and dysfunctional negative emotions scale. *Journal of Cognitive and Behavioral Psychotherapies 13*(1), 13-32.

Molden, D. C., & Dweck, C. S. (2006). Finding "meaning" in psychology: A lay theories approach to self-regulation, social perception, and social development. *American Psychologist, 61,* 192-203.

Murata, A., Moser, J. S., & Kitayama, S. (2013). Culture shapes electrocortical responses during emotion suppression. *Social Cognitive and Affective Neuroscience, 8*(5), 595–601. https://doi.org/10.1093/scan/nss036

Murguia, E., & Díaz, K. (2015). The philosophical foundations of cognitive behavioral therapy: Stoicism, Buddhism, Taoism, and Existentialism. *Journal of Evidence-Based Psychotherapies, 15*(1), 37–50.

Ortner, C. N. M., & Pennekamp, P. (2020). Emotion malleability beliefs and event intensity and importance predict emotion regulation in daily life. *Personality and Individual Differences, 159*(1), 9, 109887. https://doi.org/10.1016/j.paid.2020.109887

Pigliucci, M. (2017). *How to be a Stoic: Using ancient philosophy to live a modern life.* Basic Books.

Preece, D. A., Becerra, R., Robinson, K., & Gross, J. J. (2020). The Emotion Regulation Questionnaire: Psychometric Properties in General Community Samples. *Journal of personality assessment*, *102*(3), 348–356. https://doi.org/10.1080/00223891.2018.1564319

Predatu, R., David, D. O., & Maffei, A. (2020). The effects of irrational, rational, and acceptance beliefs about emotions on the emotional response and perceived control of emotions. *Personality and Individual Differences, 155,* 1-8.

Reffi, A. N., Darnell, B. C., Himmerich, S. J., & White, K. J. (2020). Implicit beliefs of emotion and anxiety in psychotherapy. *Motivation and Emotion, 44*, 453–463. https://doi.org/10.1007/s11031-019-09794-6

Robertson, D. (2010). *The philosophy of cognitive-behavioural therapy (CBT): Stoic philosophy as rational and cognitive psychotherapy.*

Ruiz, F. J. (2012). Acceptance and commitment therapy versus traditional cognitive behavioral therapy: A systematic review and meta-analysis of current empirical

evidence. *International Journal of Psychology & Psychological Therapy, 12*(3), 333–357.

Schroder, H. S., Dawood, S., Yalch, M. M., Donnellan, M. B., & Moser, J. S. (2015). The Role of implicit theories in mental health symptoms, emotion regulation, and hypothetical treatment choices in college students. *Cognitive Therapy and Research, 39*, 120–139. https://doi.org/10.1007/s10608-014-9652-6

Shah, M. (2020). Acceptance-based therapies and Asian philosophical traditions: Similarities and differences in the concept of acceptance. *Journal of Rational-Emotive Cognitive-Behavioral Therapy.* https://doi.org/10.1007/s10942-020-00355-2

Sheppes, G., Suri, G., & Gross, J. J. (2015). Emotion regulation and psychopathology. *Annual review of clinical psychology, 11,* 379–405. https://doi.org/10.1146/annurev-clinpsy-032814-112739

Soper, D.S. (2021). Significance of the Difference between Two Correlations Calculator [Software]. Available from https://www.danielsoper.com/statcalc

Spitzer, R. L., Kroenke, K., & Williams, J. B. (1999). Validation and utility of a self-report version of PRIME-MD: the PHQ primary care study. Primary Care Evaluation of Mental Disorders. Patient Health Questionnaire. *JAMA, 282*(18), 1737–1744. https://doi.org/10.1001/jama.282.18.1737

Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: the GAD-7. *Archives of internal medicine, 166*(10), 1092–1097. https://doi.org/10.1001/archinte.166.10.1092

Steiger, J. H. (1980). Tests for comparing elements of a correlation matrix. *Psychological Bulletin, 87*, 245-251.

Tamir, M., Vishkin, A., & Gutentag, T. (2020). Emotion regulation is motivated. *Emotion, 20*(1), 115–119. https://doi.org/10.1037/emo0000635

Tamir, M., John, O. P., Srivastava, S., & Gross, J. J. (2007). Implicit theories of emotion: Affective and social outcomes across a major life transition. *Journal of Personality and Social Psychology, 92,* 731–744. doi:10.1037/0022-3514.92.4.731

TenHouten, W. D. (2019). Alienation and emotion: Hegel versus Sentimentalism and Romanticism. *Review of European Studies, 11*(3), 1-19.

Tull, M. T., Vidaña, A. G., & Betts, J. E. (2020). Emotion regulation difficulties in PTSD. In M. T. Tull & N. A. Kimbrel (Eds.), *Emotion in posttraumatic stress disorder: Etiology, assessment, neurobiology, and treatment* (pp. 295–310). Elsevier Academic Press. https://doi.org/10.1016/B978-0-12-816022-0.00010-7

Williams, M. J., Dalgleish, T., Karl, A., & Kuyken, W. (2014, February 3). Examining the Factor Structures of the Five Facet Mindfulness Questionnaire and the Self-Compassion Scale. *Psychological Assessment.* Advance online publication. http://dx.doi.org/10.1037/a0035566

Wilson, A. C. (2019). *The impact of an emotion malleability belief manipulation on emotion regulation* [Doctoral dissertation, Ohio State University]. OhioLINK Electronic Theses & Dissertations Center. http://rave.ohiolink.edu/etdc/view?acc_num=osu1559298189559479

Wolgast, M., Lundh, L.-G., & Viborg, G. (2011). Cognitive reappraisal and acceptance: An experimental comparison of two emotion regulation strategies. *Behaviour Research and Therapy, 49*(12), 858–866. https://doi.org/10.1016/j.brat.2011.09.011

Yoon, S., Dang, V., Mertz, J., & Rottenberg, J. (2018). Are attitudes towards emotions associated with depression? A Conceptual and meta-analytic review. *Journal of affective disorders, 232*, 329–340. https://doi.org/10.1016/j.jad.2018.02.009

Vita

Name	*Amanda Fisher*
Baccalaureate Degree	*Bachelor of Arts, New York University, New York Major: Psychology*
Date Graduated	*May, 2015*
Other degrees and certificates	*Master of Arts, St. John's University, Queens, Major: Clinical Psychology*
Date Graduated	*May, 2020*