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MALADAPTIVE PERFECTIONISM AND REGULATION OF NEGATIVE AFFECT
AFTER FAILURE: THE INFLUENCES OF SELF-ESTEEM AND MINDFULNESS

BY

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ABSTRACT

The aim of the present study was to investigate the use of emotion regulation strategies among adaptive and maladaptive perfectionists and determine if there are differences. It proposed a model that maladaptive perfectionists experience heightened negative affect in response to their perceived deficiencies, and that both self-esteem and mindfulness contribute to emotion regulation strategy choice. A sample of 336 participants, ages 18 and older, completed online self-report measures related to perfectionism, self-esteem, mindfulness, current affect, and emotion regulation strategy choice, along with a manipulated failure task. Results showed that after a perceived failure, maladaptive perfectionists had lower odds of choosing adaptive emotion regulation strategies than adaptive perfectionists did, and were more likely to use maladaptive strategies; and, conversely, adaptive perfectionists had lower odds of choosing maladaptive emotion regulation strategies, and were more likely to use adaptive ones. However, neither self-esteem, or mindfulness, contributed to this proposed model. This study demonstrates that after being confronted with failure, maladaptive perfectionists engage in emotion regulation strategies that are considered maladaptive as opposed to adaptive perfectionists, adding to the literature that supports a multidimensional view of perfectionism, and that some dimensions can be considered maladaptive. Limitations of the study, along with future directions are discussed, in order to deepen understanding related to the concepts of perfectionism, emotion regulation, self-esteem, and mindfulness.

Keywords: perfectionism, emotion regulation, self-esteem, mindfulness, failure

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Table of Contents

Abstract.....	ii
Acknowledgements.....	iii
Table of Contents.....	iv
List of Tables.....	vii
List of Figures.....	viii
Chapter	
I. INTRODUCTION.....	1
II. LITERATURE REVIEW.....	4
Early Theories of Perfectionism in Psychology.....	4
Contemporary Theories of Perfectionism in Psychology.....	6
Maladaptive and Adaptive Perfectionism.....	7
Multidimensional Theories of Perfectionism.....	9
The Frost Model of Perfectionism.....	9
Flett and Hewitt’s Model of Perfectionism.....	13
Slaney’s Model of Perfectionism.....	15
Emotion Regulation and Perfectionism.....	18
The Process Model of Emotion Regulation.....	20
Emotion Regulation Goals.....	22
Emotion Regulation Strategy.....	25
Strategy Selection.....	26
Self-Esteem and Perfectionism.....	29
Mindfulness and Perfectionism.....	33

Perfectionism and Reaction to Failure.....	36
Inducing Failure: The Remote Associates Test (RAT).....	42
III. STATEMENT OF THE PROBLEM.....	45
Variable List.....	47
Independent Variables.....	47
Proposed Mediating Variables.....	48
Dependent Variable.....	48
Hypotheses.....	48
IV. METHOD.....	51
Participants.....	51
Measures.....	52
Demographic Questionnaire.....	52
The Almost Perfect Scale-Revised (APS-R).....	52
Rosenberg Self-Esteem Scale (RSES).....	53
Mindful Attention Awareness Scale (MAAS).....	53
Positive and Negative Affect Schedule (PANAS).....	54
Emotion Regulation Strategy Choice Questionnaire.....	54
Procedure.....	55
Data Analytic Plan.....	56
V. RESULTS.....	59
Sample Selection and Missing Data.....	59
Participant Demographics.....	59
Reliability.....	60

Preliminary Analysis and Descriptive Statistics.....	60
Covariate Analysis.....	63
Intervariable Correlations.....	65
Main Analysis.....	72
Hypothesis 1.....	72
Hypothesis 2.....	72
Hypothesis 3, 4, and 5.....	73
Summary of Results.....	77
VI. DISCUSSION.....	80
Purpose of the Project.....	80
Summary and Explanation of Key Findings.....	81
Perfectionism Type and Emotion Regulation Strategy Choice.....	81
Negative Affect and Emotion Regulation Strategy Choice.....	84
Self-Esteem, Mindfulness, and their Influences on Emotion Regulation StrategyChoice.....	85
Implications of Findings.....	88
Theoretical Implications.....	88
Clinical Implications.....	90
Limitations.....	93
Future Directions.....	95
Conclusion.....	97
References.....	99

LIST OF TABLES

Table

1. <i>Participant Race and Ethnicity</i>	61
2. <i>Alpha Coefficients</i>	62
3. <i>Descriptive Statistics for Primary Study Variables</i>	64
4. <i>Chi-square Tests for Associations Between Demographics and Emotion Regulation Strategy Choice</i>	66
5. <i>Crosstabulation for Emotion Regulation Strategy Choice and Gender</i>	67
6. <i>Crosstabulation for Emotion Regulation Strategy Choice and Marital Status</i> .	68
7. <i>Crosstabulation for Emotion Regulation Strategy Choice and Race</i>	69
8. <i>Crosstabulation for Emotion Regulation Strategy Choice and Hispanic/Non- Hispanic</i>	70
9. <i>Intervariable Correlations</i>	71
10. <i>Mediation Model Results</i>	74
11. <i>Moderated Mediation Table</i>	78

LIST OF FIGURES

Figure

1. <i>Model</i>	58
2. <i>Simple Mediation Model</i>	75
3. <i>Moderated Mediation Model</i>	79

CHAPTER I

Introduction

The early clinical view of the perfectionist was of one who has unrealistic high standards and becomes overly self-critical when those standards are not met. When faced with stress and failure they are considered to experience more negative affect than non-perfectionists; and due to their unreasonably high standards, they are often suffering from this negative affect (Stoeber, Schneider, Hussain, & Matthews, 2014). As conceptualization of the perfectionist has evolved, it has taken on a multidimensional view: there is considered to be maladaptive perfectionism—which aligns with the definition above—and adaptive perfectionism, which is marked by emotional health and high functioning (Rice & Ashby, 2007). Much of the present research in perfectionism has been to delineate the differences between maladaptive and adaptive perfectionism. Given that negative affect is associated with maladaptive perfectionism—and one of its more problematic consequences—regulation of emotion is an important component that helps better differentiate the two dimensions, as it appears that maladaptive perfectionists have difficulties in this area that adaptive perfectionists do not (Malivoire, Kuo, & Antony, 2019).

In the framework of James Gross' conceptualization of emotion regulation, there are several factors that might be contributing to the dysregulation found in maladaptive perfectionism: the emotion regulation goals the person has in implementing regulation, and the regulation strategies they use to do so (Gross & Jazaieri, 2014). With the problematic priorities associated with maladaptive perfectionists, they are likely to have

regulation goals that are not adaptive to context, and thus use regulation strategies that are equally non-adaptive.

Low self-esteem, which has been associated with problematic perfectionism (Ashby & Rice, 2002), is a possible driver of the priorities which shape the regulation goals of maladaptive perfectionists. In Baumeister's conceptualization of self-esteem, he proposes that those with low self-esteem, when confronted with their weaknesses, seek to remedy them. Rather than protecting themselves emotionally from their perceived deficiencies, like those with higher self-esteem, they become preoccupied with their shortcomings in an attempt to fix their failures (Baumeister & Tice, 1985; Baumeister, Tice, & Hutton, 1989). This might lead the maladaptive perfectionist to not be inclined to repair negative affect resulting from an event where they do not meet their unrealistic high standards.

Emotional awareness is another factor for healthy emotion regulation (Gross & Jazaieri, 2014): it follows that one must be aware of their emotions in order to regulate them appropriately. Maladaptive perfectionists have deficits in this area, with studies showing them having low mindfulness, an indication of low emotional awareness (Flett, Nepon, Hewitt, & Rose, 2020). Other facets of maladaptive perfectionists that might be associated with low mindfulness is their preoccupation with past failures and their harsh self-criticism—as those high in mindfulness are more focused on the present and less prone to self-criticism—traits that are antithetical to maladaptive perfectionism (Flett, et al. 2020).

Combine these factors with the overall heightened negative affect experienced by maladaptive perfectionists, it can be seen how dysfunctional emotion regulation operates

in these individuals, resulting in them not trying to repair negative affect. To the author's knowledge, no perfectionism studies have examined these several factors together experimentally while exploring the differences in regulation of negative emotion.

The aim of this study was to expand the current research on the differences between adaptive and maladaptive perfectionism regarding the contrasts in the emotion regulation of negative affect, and the regulation strategies employed to do so. Its aim was to establish the different strategies these two types of perfectionists employ to regulate negative emotions, and how self-esteem and mindfulness might serve as influences.

In order to capture these differences, an understanding of perfectionism is necessary, and an examination of it as a multidimensional construct that can have either positive or negative traits and outcomes. Understanding the emotional processes at work in perfectionists will also be necessary, requiring a framework of emotion and its regulation for which to both theoretically and empirically assess how perfectionists are managing their negative affect. This study proposes that self-esteem and mindfulness are key constructs in this process, and hopes to explain how they might contribute to the emotion regulation of negative affect in perfectionists.

CHAPTER II

Literature Review

Early Theories of Perfectionism in Psychology

The perfectionism construct in psychology has clear importance to the field as it has a long history in the literature. Furthermore, its clinical importance, due to its potential to cause suffering, is demonstrated by the number of “master” clinicians who have written on it—some having done so extensively—theorists such as Freud, Adler, and Horney (Hewitt, Flett, & Mikail, 2017). Taking this more historical look at the construct, we see how opinions of perfectionism’s possible benefits versus its detriments have evolved. Beginning with the general public’s view of it as a positive trait, early clinicians seeing it as a trait bearing dysfunction, and the more modern view melding the two: seeing it as something that can be both positive or negative.

Much like present day, in Freud’s time perfectionism was considered by the public as not necessarily a negative trait, but one by which individuals might reach “heights of intellectual prowess and ethical sublimation, and from which it might be expected that his development into superman will be ensured,” (Freud, 1920/1990, p. 36). However, Freud had a dim view of perfectionism and considered it a product of neuroticism (Malivoire et al., 2019), more particularly he saw it as an “obsessional neurosis” (Cohen, 2020). Freud felt that perfectionism was not so much an innate striving for betterment, but he believed it to be a, “restless striving towards further perfection which may be observed in a minority of human beings,” (Freud, 1920/1990, p. 36).

Though Freud spoke of perfectionism earlier, it can be argued that Adler was the first to begin theorizing about the construct in any kind of depth (Flett, et al., 2017). It was Adler's belief that feelings of inferiority are a basic component of the human experience. Adler argued that individuals attempt to overcome these feelings of inferiority by trying to achieve perfection and superiority (Adler, 1938/2009). He hypothesized that people have a "superiority complex," adapted in an effort to try and counteract the negative feelings associated with their perception of inferiority, or, their "inferiority complex." This "superiority complex" is conscious, and is marked by making extreme demands on both others and the self (Flett, et al., 2017). Adler's theory of individual psychology has its underpinnings in how each individual manages and experiences the superiority complex—it was his argument that each person has their own individual way of doing this.

While Adler contends that everyone has these feelings of inferiority and compensating superiority, some individuals, for a variety of reasons, will take the superiority strivings to unrealistic perfectionistic extremes. These individuals will be "perpetually comparing themselves with the unattainable ideal of perfection, are always possessed and spurred on by a sense of inferiority," (Adler, 1938/2009, p. 35-36).

Another component to perfectionism that Adler explores is that of anxiety. Adler contends that anxiety is one of the most salient markers of feelings of inferiority. He holds that as feelings of anxiety rise, sufferers will try to counteract these feelings by developing a compulsion neurosis by striving for perfection in order to highlight their superiority (Adler, 1938, 2009). It stands to reason that these overly ambitious strivings will only lead to disappointments and negative feelings.

While emotion regulation is not addressed specifically in Adler's theoretical framework of perfectionism, we can see how it is at play in an individual's attempt to regulate the negative emotions associated to feelings of inferiority. To compensate feelings of inferiority, the person is trying to regulate these negative emotions by trying to achieve perfection, which ultimately fails, leading to further negative affect—in this light we can see the “superiority complex” as a dysfunctional attempt to regulate emotion.

Another early theorist who spoke to perfectionism, Horney, believed that neurosis is a result of early childhood experiences, and she posited that there are ten neurotic needs that arise from these experiences (Horney, 1950). These neurotic needs reflect a conflict in the desire to move close to people versus against, or away from them. Perfectionism is one of those neurotic needs, and Horney proposed that one way to attempt to resolve this need is to create a perfected, idealized image of the self; and then to strive for it (Horney, 1945/2001). It was Horney's opinion that such striving was ultimately futile and would lead to feelings of failure as well as restrict personal growth (Flett, et al., 2017). We see here one of the key elements that has continued on with the perfectionism literature as it has evolved: that of problems arising from discrepancy between a person's ideal and where they perceive they are in regards to that ideal. That the negative emotion associated with perfectionism can be attributed to self-criticism and anxiety from this perceived discrepancy. It might be assumed that barring this self-criticism, one might have these high standards and not the negative affect that results from coming up short of them.

Contemporary Theories of Perfectionism

Maladaptive and Adaptive Perfectionism

Early theories of perfectionism held it to be a negative and maladaptive personality feature. A construct born of neurosis, that compels the sufferer to an endless cycle of striving for impossible ideals, and this futile striving resulting in negative affect when those impossible ideals are not met. As the literature expanded, however, the concept of perfectionism possibly having positive, as well as negative outcomes and facets began to be explored (Hamachek, 1978), with it being theorized that there might be an adaptive perfectionism as well as a maladaptive form (Malivoire et al., 2019), or, as it was initially described, a “normal” perfectionism as well as “neurotic” perfectionism (Hamachek, 1978).

It began to be theorized that perfectionism was in part the result of early childhood experiences and that early parental responses to the child’s performances were a key factor. It was believed that parents who either show no approval of the child’s performance whatsoever, or parents who are inconsistent in their approval, would lead to neurotic perfectionism in the child later in life (Hamachek, 1978). It was further theorized that when general approval was conditional more so than unconditional, neurotic perfectionism might be the outcome as well (Hamachek, 1978).

The neurotic perfectionist was similar in the features described by Adler and Horney: they are individuals who ceaselessly impose on themselves unattainable standards and achievement goals. Furthermore, these unattainable standards and goals are rigid and can never be relaxed, and are applied to all facets of life. Compounding this, they never find enjoyment in their efforts, and never take pride in their strivings regardless of the outcome (Hamachek, 1978).

What made this view of perfectionism in the literature different was the accounting for a positive, or adaptive, perfectionism, that did not lead to psychological distress. The normal, non-neurotic, perfectionist was seen as having a far different childhood experience. This child received consistent, realistic approval for their actions. Furthermore, the child had proper modeling in regards to how to view achievement and goals. This was usually modeled by a person that is emotionally important to the child, namely a parent (Hamachek, 1978). The features of the normal perfectionist can be seen as opposites of the neurotic: while they do strive for high performance, they set realistic standards and goals for themselves. They derive pleasure from trying to achieve these benchmarks, and can take pride in their efforts. And, importantly, they are capable of relaxing their standards so as not to impose unrealistic goals upon themselves in inappropriate circumstances. The adaptive perfectionist can "feel free to be less precise as the situation permits," (Hamachek, 1978, p. 27). In comparison to this view of the neurotic perfectionist, it would seem the normal perfectionist has better self-regulation in terms of being able to regulate their goals adaptively, which would result in less self-criticism as there is less likely to be discrepancy in their performance to an unrealistic ideal.

It is important to note that this view did not conceive of normal perfectionists being immune to some negative outcomes, such as negative affect, that neurotic perfectionists suffer. However, it was argued that adaptive perfectionists experience these negative outcomes with less intensity and for much shorter periods of time (Hamachek, 1978). It could be argued that this is also a demonstration of better regulation abilities in adaptive perfectionists. That compared to maladaptive perfectionists, adaptive

perfectionists can better regulate their performance standards, as well as their affect. Furthermore, with better goal regulation, there would be less negative emotion to regulate to begin with.

Multidimensional Theories of Perfectionism

As psychology began to recognize and establish these two facets of perfectionism, adaptive and maladaptive, it also began to recognize that perfectionism has different dimensions: some associated with maladaptive perfectionism and others associated with adaptive. In the 1990s, two separate multi-dimensional views of perfectionism began to take form independently of each other (Malivoire et al., 2019).

The Frost Model of Perfectionism

One model, the Frost model, proposes a conceptualization of perfectionism containing six dimensions (Frost, Marten, Lahart, & Rosenblate, 1990): some of these dimensions are associated with psychopathological symptoms, and others associated with more positive outcomes. The Frost model posits that unrealistically high goals and standards is one of the key elements of perfectionism, hence one of the dimensions is *high personal standards*. This model conceptualizes the high personal standards dimension as the setting of very high standards for the self, and placing excessive importance on those standards and the related self-evaluation (Frost et al., 1990).

However, this model holds that unrealistic goals and standards are not enough to explain the dysfunction seen in some perfectionists. It proposes that this over ambitiousness does not account for the perfectionists who have these high standards, and yet are competent and successful without the psychological dysfunction seen in some maladaptive perfectionists. This leads to the conclusion that: “The setting of and striving

for high standards is certainly not in and of itself pathological,” (Frost et al., 1990, p. 450).

This model posits that in the case of perfectionists who demonstrate dysfunction, it is due to tendencies to be overly self-critical of their performance, not the goals and standards themselves (Frost et al., 1990). This can be seen as the logical extension of the work of Horney and Adler, whose conceptualization held that a key element of dysfunction and negative affect is the individual’s perception of a discrepancy between their idealized self and their actual performance. By removing this element of perfectionism, this newer model posits that perfectionists can function in a healthy manner.

Considering this, this model proposes *excessive concern over mistakes* as a dimension in perfectionism, and one that this model considers to be of particular importance (Frost et al., 1990). Excessive concern over mistakes impels some perfectionists to not strive for their goals out of a desire for achievement, but rather out of a fear of failure, a notion also held by earlier models (Frost et al., 1990; Hamachek, 1978). The Frost model conceptualizes this dimension of perfectionism as an individual’s overly negative response to perceived mistakes, and that the individual sees these mistakes as the equivalent of total failure, with the resulting belief that failure will lead to the loss of respect of others (Frost et al., 1990).

Like prior theories of perfectionism, the Frost model posits that early developmental experiences with caregivers explains much of the etiology of its maladaptive forms. It is theorized that overly critical self-evaluations of performances are tied into negative assumptions regarding parental performance expectations, and the

resultant parental approval or disapproval. It is believed that this is the result of households where the child felt that love and approval are conditional of performance, with the outcome being that the child is impelled to strive for perfection in an attempt to attain that conditional love and approval. The child feels that any failure, no matter how small, risks rejection by the parents and the withdrawal of their love (Frost et al., 1990).

This dynamic ties into two dimensions of the Frost model of perfectionism: *high parental expectations* and *expectation of parental criticism*. These are conceptualized, respectively, as the belief that parents set exceedingly high goals for the individual to attain, and the expectation that parents will be overly critical of any attempts to reach those goals, regardless of effort or performance (Frost et al., 1990). With these two dimensions of perfectionism, we begin to see social elements (in this case parental) entering into the conceptualization—where fear of judgement of others begins to be a source of distress, and a motivating factor to be perfect. These social elements, found in this model and others, are almost exclusively associated with maladaptive perfectionism.

Another dimension of the Frost model, *doubting of actions and performance*, is conceptualized as the individual having the sense that a task is both never appropriately attempted nor completed. This facet is linked to the literature about obsessional experiences, and holds that this dimension of perfectionism can result in the sufferer to be unsure if a task is ever actually done, leading to a person having reluctance to start tasks at all. This plays a potential role in procrastination (Frost et al., 1990), which has been linked to perfectionism as well (Flett & Hewitt, 2020).

The final dimension in this model of perfectionism is a preference for *order and organization*. It holds that this preference for order is overemphasized in perfectionists. It

is described as placing an extreme importance on everything having a specific place, and that everything must, in fact, be exactly in that place (Frost et al., 1990).

A measure was developed to assess the six proposed dimensions of perfectionism in this model: The Multidimensional Perfectionism Scale (also referred to as the Frost Multidimensional Perfectionism Scale) (FMPS, Frost et al., 1990). Using this scale, it was found that certain dimensions of perfectionism were associated more to negative outcomes than others. In particular, it was found that concern over mistakes is most associated to symptoms of psychopathology (in particular depression, anxiety, and obsessional thinking). Following this dimension in association with negative outcomes was doubting of actions and performances (Frost et al., 1990). Conversely, the high personal standards dimension was found to be associated with high levels of self-efficacy (Frost et al., 1990) leading this dimension of perfectionism to being considered adaptive (Malivoire et al., 2019).

As research into perfectionism has progressed, high self-efficacy seems to be consistently associated with individuals who are adaptive versus maladaptive perfectionists (Hewitt et al. 2017, Ganske & Ashby, 2011; Malivoire et al., 2019; Rice & Ashby, 2007). It is possible that the high levels of self-efficacy found in adaptive perfectionists is due, in part, to their ability and confidence to be flexible with where they set their high standards, and their ability and confidence to move on from situations where they do not meet those standards. In this way, they are likely to experience less perceived failure, and when they do, are able to move on from it, strengthening their sense of ability to affect the situations they encounter.

It should be noted that while the high standards dimension is associated with adaptive perfectionism, one item on the measure does seem to capture the rigid, all-or-nothing thinking style, self-criticism and social comparison that is associated with maladaptive perfectionism: “If I do not set the highest standards for myself, I am likely to end up a second-rate person.” It is this author’s contention that this item makes the use of the personal standards dimension of the Frost model not a clear-cut indicator of adaptive perfectionism.

Flett and Hewitt’s Model of Perfectionism

Furthering this notion of multidimensional perfectionism is the popular Flett and Hewitt model of perfectionism (Flett & Hewitt, 1991) which conceptualized perfectionism as having three dimensions: *self-oriented perfectionism*, *other oriented perfectionism*, and *socially prescribed perfectionism*. This model points to similar reasons as other theories in regards to what results in the maladjustment found in some perfectionists: the setting of unrealistic standards, the relentless drive to meet those standards, self-criticism when those standards are not met, and rigid, all-or-nothing thinking which holds that events are either total failures or successes (Flett & Hewitt, 1991). However, this model of perfectionism differs in that it incorporates an additional interpersonal component. It contends that interpersonal elements are an important factor as to where the perfectionist feels their high standards are coming from: themselves or from another person or persons. And, additionally, whether the unrealistic standards are for their own performance or only the performance of others (Flett & Hewitt, 1991).

The first dimension in this model, *self-oriented perfectionism*, is not dissimilar to Frost and colleagues’ high personal standards dimension (Frost et al., 1990). Self-

oriented perfectionists are self-directed in their endeavors, and their source of striving comes from within. They primarily hold themselves to these standards but not others. Their standards are exacting and they evaluate themselves critically, sometimes harshly. While this dimension has been associated with negative outcomes such as anxiety (Flett & Hewitt, 1991), it does have some positive outcomes as well, such as self-efficacy (similar to Frost's personal standards dimension), and taking pleasure in one's pursuits (Stoeber, Kempe and Keogh, 2008). This dimension has generally come to be considered an adaptive dimension of perfectionism (Malivoire et al., 2019).

The Flett and Hewitt model's other proposed dimension, *other-oriented perfectionism*, is similar to self-oriented perfectionism but rather than being directed inward towards the self, it is directed outward towards others (Flett & Hewitt, 1991). These individuals have unrealistic standards that they hold others to, and they judge others with excessive harshness when those standards are inevitably not met. While the self-oriented perfectionist will criticize themselves for perceived poor performance, the other-oriented perfectionist often blames, criticizes, and shows hostility to those who they feel do not meet expectations. This dimension of perfectionism is often associated with interpersonal dysfunction, as it often leads to issues with colleagues, friends, family, and loved ones; resulting in loneliness, isolation and difficulties at work (Flett & Hewitt, 1991). Due to these negative interpersonal outcomes, this dimension of perfectionism is generally considered to be maladaptive (Malivoire et al., 2019).

This model's final dimension is *socially-prescribed perfectionism*. These individuals feel that others have unrealistically high standards for them and their performance, and that they will be judged overly critically. It is proposed that this form of

perfectionism is often accompanied by negative affect. This is in part due to feelings of lack of control, as these perfectionists believe that these standards are being imposed on them and are not coming from themselves, leading to feelings of anger, anxiety and depression (Flett & Hewitt, 1991).

It is also likely that negative affect is also being generated from the inevitable self-criticism that results when the individual perceives that they are coming up short of the standards that others have placed on them. For these reasons, this is generally considered to be a maladaptive dimension of perfectionism (Malivoire et al., 2019). Of the three dimensions in this model, it is posited that socially prescribed perfectionism is associated with the most psychological dysfunction (Flett & Hewitt, 1991). To measure these three dimensions of perfectionism, the Multidimensional Perfectionism Scale was developed (MPS; Flett & Hewitt, 1991).

With its emphasis being on the social element of maladaptive perfectionism, the Flett and Hewitt model makes it difficult to separate the perfectionist's high standards and self-criticism from the anticipation of judgement from some unspecified "other." While this social component might indeed be a strong motivator for some perfectionists, this author argues that there are likely instances where the perfectionist is working from their own internalized models of what being perfect looks like, and engage in self-criticism without consideration of how their shortcomings are being judged by others.

Slaney's Model of Perfectionism

Coming shortly after these two theories of perfectionism was Slaney and colleagues' conceptualization of the construct, which has also become an influential model in the study and treatment of perfectionism (Malivoire et al., 2019). What

differentiates this multi-dimensional concept is that it holds more of an eye towards the positive aspects of perfectionism that are believed to be overlooked by the prior models (Slaney, Rice, Mobley, Trippi, & Ashby, 2001). While the other models and measures are well-suited for capturing the negative elements of perfectionism, it was only after the fact that some dimensions became associated with positive facets and outcomes, such as self-efficacy, high self-esteem, perceived social support, extroversion, conscientiousness, achievement, academic performance, life satisfaction, and adaptive coping styles (Macedo, Marques, & Pereira, 2014).

Considering these positive attributes that can be associated to some dimensions of perfectionism, Slaney and colleagues created a model and scale to better capture both of its positive and negative aspects and delineate them (Malivoire et al., 2019). The Slaney model proposes that perfectionism has three dimensions: *standards*, *discrepancy*, and *order*. The standards dimension is conceptualized as the individual having high personal standards and setting ambitious goals for themselves. This is not dissimilar to Frost's personal standards dimension, but it does not include the self-criticism, rigidity, and sense of discrepancy that Frost's contains, thus better isolating the adaptive aspects.

The Slaney model's discrepancy dimension does this instead, as it describes an individual who is inclined to see a discrepancy between their goals and their actual performance, often leaving them to feel that they have come up short—thus isolating one of the common elements in the perfectionism literature: the self-criticism and negative emotions associated with having missed an overly ambitious mark.

Finally, order is the dimension of perfectionism referring to the need for everything in the person's life to be neat and highly organized. However, after

subsequent research, the order dimension of this model has been shown to not be a key dimension of perfectionism and has tended to be disregarded in more recent studies and literature (Rice & Ashby, 2007).

Empirical results are in line with this conceptualization: as the standards and discrepancy dimensions are shown to represent two contrasting patterns of perfectionism, with standards being associated with neutral or positive outcomes, and discrepancy with negative outcomes (Rice, Suh, & Davis, 2018). While both of these dimensions involve having very high standards, which has the potential to lead to negative affect, one important difference between the two dimensions comes down to poor self-regulation: perfectionists who are in the standards dimension are conceptualized as being able to better regulate the self-criticism that is often found in maladaptive perfectionists, whereas perfectionists high in discrepancy do not have this regulating ability, and are conceptualized as being highly self-critical, regardless of their performance (Rice et al., 2018). This once again points to ability to self-regulate as either a vulnerability or protective factor in perfectionism.

To measure these dimensions of perfectionism, the Almost Perfect Scale was developed (APS, Slaney et al., 2001). It has proven to be an effective way for classifying perfectionists from non-perfectionists, and maladaptive from adaptive perfectionists (Rice & Ashby, 2007) and is another scale in common use (Malivoire et al., 2019).

These three different models and measure of perfectionism, all in popular use, demonstrate the complexities of the construct—with some dimensions being considered adaptive and others being associated with negative outcomes. One of the most common threads in the dimensions considered to be maladaptive is feelings of discrepancy

between where one is versus where one feels they should be, and the resultant self-criticism and negative affect that is associated with those cognitions. Furthermore, it would appear that these maladaptive dimensions hint at an inability of maladaptive perfectionists to self-regulate themselves in regards to self-criticism and the setting of appropriate goals. We will also see that a key facet of the distress found in maladaptive perfectionism is due to another deficit of regulation: the regulation of emotion.

Emotion Regulation and Perfectionism

Problems in emotion regulation are considered to be both a key vulnerability as well as an active factor in many psychiatric pathologies (Gross & Jazaieri, 2014). As demonstrated in the perfectionism literature, a broad array of regulation failures appear to be an important component that leads to negative outcomes in maladaptive perfectionism. It could be argued that deficits in emotion regulation are one of the most detrimental issues to the functioning of maladaptive perfectionists, and it might go a long way to explain their other psychiatric difficulties (Malivoire et al., 2019).

The literature supports this, as one study demonstrated that maladaptive perfectionism is associated with difficulties in regulating emotional responses, which in turn leads to psychological distress. In a sample of 340 university students, it was found that emotion dysregulation fully accounted for the psychological distress found in maladaptive perfectionists, whereas this relationship with adaptive perfectionism was inverse (Aldea & Rice, 2006). The authors propose that maladaptive perfectionists, in their pursuit of goals that can never be satisfied, are left more vulnerable to negative affect and daily stressors, and they then engage in maladaptive coping strategies and immature defenses, further compounding their distress (Aldea & Rice, 2006).

Conversely, the adaptive perfectionists demonstrated the ability to better regulate their emotions, and therefore suffered less distress, again demonstrating the importance of regulation in delineating the difference between maladaptive and adaptive perfectionism.

While this study does empirically demonstrate that maladaptive perfectionists suffer from more emotion dysregulation than adaptive perfectionists—and that this is a source of psychological distress for maladaptive perfectionists—it does not capture the particulars of what that dysregulation looks like. It would be useful to know both why maladaptive perfectionists are more dysregulated, and to examine more closely how they are regulating emotions in comparison to adaptive perfectionists.

Another study focusing on perfectionism and emotion regulation found similar results (Rudolph, Flett, & Hewitt, 2007). In a sample of 100 university students, it was found that maladaptive perfectionists (socially prescribed perfectionists, in particular) had difficulties in emotion regulation, leading the authors to conclude that one of the key issues facing maladaptive perfectionists in their day-to-day functioning is their difficulties in handling events by self-regulation. They also hold that maladaptive perfectionists are more vulnerable to daily stressors and are often unable to successfully self-regulate out of the resulting negative affect. They found that this dysfunction in regulation takes the form of ruminating in self-blame and self-criticism.

Here we see the literature verifying emotion regulation deficits as being yet another area where maladaptive perfectionists have difficulty self-regulating. It can be argued that this particular failure of self-regulation is the most detrimental for maladaptive perfectionists, as it does not allow them to recover from the disappointments their perfectionistic demands frequently lead them to.

The Process Model of Emotion Regulation

To better conceptualize and treat maladaptive perfectionism, greater understanding of the emotional mechanisms at work is important. The process model of emotion regulation (Gross, 20014) provides a model that is both clinically and research informed, and provides a framework to better gain this understanding (Malivoire et al., 2019). This model of emotion regulation takes as its foundation the modal model of emotion. The modal model is a temporal model that explains the generation of emotions over a sequential period of time, in four distinct parts. This process begins with the emotion eliciting situation, followed by the attention drawn to this situation, the individual's appraisal of the event, and, finally, the resulting emotional response (Gross, 20014).

The process model of emotion regulation overlays the modal model's four steps with opportunities for the regulation of emotion at each sequential step. For example, and in order: individuals might select the emotion eliciting situation, they might modify the situation themselves, or they can choose how they deploy their attention in regards to the situation (towards it, or away from it), they might alter their cognitions about the situation, and, finally, they can modulate their response to the emotion-generating stimuli (Gross, 2014).

Looking at each specific step of the process model, we can see how it might function in perfectionism. Using the example of maladaptive perfectionism, the individual would likely select a goal or activity for which they are not likely to find their idealized vision of success. They then might rigidly deploy their attention on this activity during and after the event, such that they remain focused on what they perceive as failing.

They then might alter their cognitions to overemphasize the significance of this failing. Conversely, the adaptive perfectionist would likely select an event where their high standards are likely to be reached, and if success became unlikely, they would either divert their attention or alter their cognitions to downplay the significance of the event.

Underlying this temporal process, there are three core emotion regulation features: the *goal* of the regulation, the *strategy* employed to achieve that emotion goal, and the *outcome* of this process (Gross, 2014). In regards to the emotion regulation goals, this is referring to the desired emotional state. For example, trying to upregulate to a better mood when you are feeling depressed, or downregulate to being calm when you are feeling angry. It can also refer to the attempt to try and limit the duration or intensity of emotions that are considered either unpleasant or non-adaptive for certain situations (like being angry with a boss in a meeting). People also are known to have the goals of upregulating positive emotions, like trying to make a moment of joy last longer or with more intensity.

People are considered to have both hedonic or instrumental emotion regulation goals. Hedonic goals would be referring to the aforementioned trying to maintain feelings of joy, or dampening feelings of anger or depression. In short, hedonic goals are ones with the aim at making the individual feel better in the moment. Instrumental goals refer to emotion regulation goals done not so much for their emotional outcome, but rather for a non-emotional one, for example, a doctor trying to appear calm to relax a patient, or an athlete upregulating excitement or anger to get ready for a game (Gross, 20014). These instrumental goals aim to use emotion in a way that serves a purpose other than feeling

better. Considering the perfectionist's goals of achieving high standards, it would make sense that their emotion regulation goals would often be instrumental.

There are a variety of strategies that people might employ to achieve their emotion regulation goals. These strategies take place and are utilized throughout the timeline of the process model, with some even being employed before the emotion stimulus takes place. For example, an adaptive perfectionist, who knows they are a poor athlete, declines an invitation to join the company softball team, as they know they would be unlikely to meet their high-performance standards.

Emotion can be regulated at the very end of the emotion regulation process as well (playing softball anyway, and suppressing the feelings that are aroused by the poor performance). These strategies are used to both modify the intensity of emotions as well as to determine the emotional outcome, which is the final result of the emotion regulation process (Aldao, Nolen-Hoeksema, & Schweizer, 2010; Gross, 2014).

People intuitively understand that they have the ability to regulate their emotional outcomes, and this intuitive understanding helps determine the goals and strategies that are employed in this process (Gross, 2014). Of particular interest to this proposed study were the emotion regulation goals and strategies chosen by perfectionists and why they do so. The study proposed that maladaptive perfectionists have maladaptive emotion regulation goals which lead them into implementing regulation strategies that can result in negative outcomes.

Emotion Regulation Goals

It is generally assumed that people want to feel good rather than bad.

Extrapolating from that, one might assume that the goals of emotion regulation are to

regulate negative emotions into neutral or positive ones. This is not always the case, as at times people will have goals to sustain, or even move towards negative affect. Negative emotions, such as anger, fear and sadness, can have instrumental attributes that would lead people to set them as regulation goals in certain contexts; such as feeling anger over injustice, fear to signal danger, and sadness to help process information (Tamir, 2016).

This instrumental use of negative emotion is often the result of a cost-benefits analysis. When it comes to how they want to feel, individuals will weigh the short-term benefits of feeling good, versus the long-term benefits that might come from affect that is not necessarily pleasant. When the long-term benefits appear to be the preference, people will choose emotions that are aimed at utility more so than pleasure (Tamir, 2009). It is the author's contention that one of the differences between maladaptive and adaptive perfectionists is in this cost-benefits analysis: that the maladaptive perfectionist feels that negative affect is instrumental and can be useful in rectifying their perceived failures, and thus is a benefit in the long term in regards to their perfectionistic goals. Whereas the adaptive perfectionist makes the different conclusion: that the negative emotion is not worth the goal, and will thus have a regulation goal to improve their emotional state.

While less pleasant and negative emotions have instrumental uses at times, pathology emerges when the goals for using these emotions are not appropriate for the given context, or when their use is based on irrational thinking, and the benefits of the negative emotions are misconstrued (Gross & Jazaieri, 2014; Tamir, 2009), a likely scenario that is playing out in maladaptive perfectionism. To the author's knowledge, the perfectionism literature up to this point has not examined negative affect as being used instrumentally as a goal of maladaptive perfectionists.

There is empirical evidence to support this concept of people having dysfunctional emotion regulation goals. One study of emotion regulation in depression found that depressed participants, compared to non-depressed, chose to increase or move towards negative emotion (Millgram, Joormann, Huppert, & Tamir, 2015). It was found that depressed participants would choose to see more sad images versus happy, listen to sad music over upbeat music, and use cognitive reappraisal to increase negative emotion, rather than to repair it (Millgram, et al., 2015). This last finding is of particular interest, as depressed participants, even when instructed on how to use reappraisal to improve affect, would choose to use it to further intensify negative mood. This demonstrates that even when given the tools to feel better, these individuals choose not to, indicating an active goal to maintain negative affect (Millgram, et al., 2015).

Here we see evidence of maladaptive emotion regulation goals directing regulation strategy. The authors of this study posit that perhaps individuals who are depressed either do not believe they deserve to feel better or that there is a form of emotional self-verification at play: that individuals with depression will choose to maintain negative affect as that is what they feel is the appropriate state for themselves as it is consistent with their general, day-to-day emotional experience (Millgram, et al., 2015).

Another study, this one of people suffering from major depressive disorder (MDD), had similar findings. In a sample of 39 participants diagnosed with MDD and a control of 41 participants, it was found that those with MDD would attempt to intentionally try to downregulate, or “dampen,” positive affect in comparison to the control group, once again demonstrating an emotion regulation goal away from positive affect (Beblo et al., 2012). The authors of this study similarly postulate that people with

MDD either feel they are not deserving of pleasant affect, or that they are perhaps fearful of emotions in general, which leads to the dampening of affect (Beblo et al., 2012).

Findings in studies like these might suggest that maladaptive perfectionists are using regulation goals in a similar dysfunctional manner—to move toward, or sustain, negative affect. Leaving the question of why they might be doing this, and why are adaptive perfectionists treating negative affect differently.

Emotion Regulation Strategy

Once the regulation goal is set, the regulation strategy is selected in furtherance of that goal. In choosing which emotion regulation strategy to employ, the individual engages in a cost-benefit analysis, not dissimilar to the one involved in setting the emotion outcome goal (Sheppes et al., 2014). This deliberative cost-benefit analysis is influenced by three factors. The first factor is the intensity of the emotional stimulus to be regulated. This is a key in the strategy selected, as it dictates which direction the individual moves in relation to the stimulus: towards the stimulus, or away from it. For example, if the stimulus is very intense, the individual might choose to move away from it, employing a strategy like avoidance.

Once again, using the example of the adaptive perfectionist asked to join the softball team who declines due to anticipated failure: anticipating the negative emotions of not being able to perform to their standards, they choose to avoid the situation entirely, and decline to join the team. They employ a strategy of moving away from the potentially painful emotional stimulus.

The second factor in strategy selection is cognitive, which refers to the cognitive generation of the strategy itself, and the cognitive resources required to do so. Choosing

to not play softball does not take much cognitive effort or resources. Whereas, playing the game will take effort to regulate the likely negative emotions that will come from performing poorly. And, finally, there is the motivational factor, which is what the individual is hoping to achieve by implementing the strategy in question—in the case of the example, the goal is to not experience the negative emotions of playing poorly (Sheppes et al., 2014).

It is possible that maladaptive perfectionists are going about their strategy selection in dysfunctional ways. It would appear that they are not adaptively selective in the activities and situations they select, often choosing to engage with events that are likely to lead to perceived failure (Adler, 1938/2009; Hamachek, 1978; Horney, 1945/2001). Furthermore, they do not avoid the emotional intensity of judging themselves critically (Frost et al., 1990), and they make the cognitive effort to ruminate on their failings (Flett, Madorsky, Hewitt, & Heisel, 2002; Flett, Nepon, & Hewitt, 2016; O'Connor, O'Connor, & Marshall, 2007). The current literature suggests that their emotion regulation goal is not to feel better and move on, but rather to rectify the event and their perceived self-deficiencies which necessitates experiencing ongoing negative affect.

Strategy Selection

Research has shown that in any given circumstance, people use a variety of emotion regulation strategies simultaneously (Aldao & Nolen-Hoeksema, 2012b). One study demonstrated this by showing participants a film clip to induce negative emotion. Participants were to rate the extent they used a variety of regulation strategies on a Likert scale (for example: cognitive reappraisal: “think of the situation differently in order to

change how you felt,”; suppression: “push down your feelings or put them out of your mind”). They reported that the majority of participants endorsed using more than one strategy (65%; Aldao & Nolen-Hoeksema, 2012b). These results led the authors to conclude that studies that have the participant only select one strategy choice after an emotion eliciting stimulus are likely missing a complex process that often involves more than one strategy being employed. The authors also noted that individuals who spread their choices out among the strategies on the Likert scale used them with less intensity than those who reported using only one strategy. That is, participants who were using multiple strategies appear to be spreading out their emotion regulation efforts among various methods, rather than putting all of their cognitive resources into one regulation strategy (Aldao & Nolen-Hoeksema, 2012b). This is a process that has yet to be examined in perfectionist regulation of emotion, and would likely lead to a more nuanced look at how they are managing their affect.

Albeit overly simplified and context dependent, certain regulation strategies are considered more adaptive than others. A meta-analysis of 114 studies investigating psychopathology and emotion regulation strategies found higher use of the strategies of rumination, avoidance, and suppression, were associated with psychopathology, whereas the strategies of acceptance, reappraisal, and problem solving were less so (Aldao et al., 2010). Of the maladaptive strategies, rumination was found to have the largest effect size for psychopathology—namely, depression and anxiety. Considering maladaptive perfectionist’s propensity for rumination (Flett et al., 2002; Flett et al., 2016; O’Connor et al., 2007), this is worth noting.

As anticipated, this study also found that the putatively adaptive strategies of reappraisal and acceptance were associated with the least psychopathology (Aldao et al., 2010). Besides being associated less with psychopathology, regular use of adaptive strategies—reappraisal in particular—has been associated with positive outcomes, such as healthy affect, general well-being, and better social functioning (John & Gross, 2004).

The literature points to the emotion regulation strategies that people employ being important to overall psychological health. This suggests that perhaps not only do maladaptive perfectionists have maladaptive regulation goals, but that they are using regulation strategies that are associated with dysfunction as well. Supporting this, a survey study found that maladaptive perfectionism was associated with higher use of maladaptive emotion regulation strategies. For example, in maladaptive perfectionism, less use of positive reappraisal was found along with higher use of rumination, self-blame, and catastrophizing (Rudolph et al., 2007). Another study found the rumination exhibited by maladaptive perfectionists controlled for their psychological distress. These studies indicate the importance of the role that rumination and other maladaptive strategies that play a role in problematic perfectionism (O'Connor, et al., 2007).

Though these studies show a link between maladaptive perfectionism and maladaptive strategies, they are not experimental, but rather survey studies, and they do not demonstrate the real time use of these strategies in response to negative affect. The literature to this point has established the use of regulation strategies associated with psychological dysfunction being used in maladaptive perfectionists, but there is not yet a clear picture of what might be influencing the regulation goals behind the strategy choices.

Self-Esteem and Perfectionism

Self-esteem can help us better understand the emotion regulation goals and strategy choices of maladaptive perfectionists. As a construct, self-esteem is generally considered an evaluation of the self (Baumeister & Tice, 1985). Whether an individual “likes” themselves, and has affection for themselves (high self-esteem) or if a person feels more negatively about themselves (low self-esteem) (Brown & Dutton, 1995; Heimpel, Wood, Marshall, & Brown 2002). In considering self-esteem in the context of perfectionism, it should be noted that people with high self-esteem tend to put an emphasis on their abilities and strengths, whereas those with low self-esteem tend in the opposite direction, emphasizing and focusing on their weaknesses and negative attributes (Baumeister & Tice, 1985).

Due to the nature of maladaptive perfectionism, it would seem unlikely that it would be associated with high self-esteem, and be more of a fit with low self-esteem. This has been demonstrated in a study that found that low self-esteem, as determined by the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1979) was significantly predicted by maladaptive perfectionism, and that, conversely, adaptive perfectionism was positively associated with self-esteem (Ashby & Rice, 2002).

Of interest when considering self-esteem and perfectionism is the use of primary and secondary control. Primary control refers to individuals bringing the world into line with their wishes, whereas secondary control refers to individuals bringing themselves into line with the realities of the world (Rothbaum, Weisz, & Snyder, 1982). One conceptualization of self-esteem posits that both low self-esteem and high self-esteem individuals use both control systems, but differ in their goals and patterns of use

(Baumeister & Tice, 1985). Individuals low in self-esteem are motivated to use primary control when confronted with their failures and weaknesses. They are motivated to repair the situation by repairing the deficiency in themselves. This drive to repair failure is what contributes to those with low self-esteem becoming preoccupied with their failures and focusing on their weaknesses, in an attempt to bring the world into alignment with their goals (Baumeister et al., 1989). With maladaptive perfectionism being associated with low-self-esteem (Ashby & Rice, 2002) it is likely that this contributes to their preoccupation with their shortcomings.

Conversely, people with high self-esteem will use secondary control after experiencing such a situation. They move on from the negative experience, usually by means of cognitively changing the attribution or meaning of the event, bringing themselves into alignment with the realities of the situation (Baumeister & Tice, 1985). This would be similar to the emotion regulation strategy of reappraisal. This has been demonstrated experimentally in a study of 61 undergraduate psychology students who were induced to experience failure with a manipulated failure task.

Participants in the failure condition were given a list of 14 anagrams, only 5 of which were solvable. At the end of the task, they were told that they had performed poorly, ranking in the 21st percentile. Participants in the success condition were told they had done well and scored in the 81st percentile. It was found that individuals with high self-esteem were only interested in pursuing the task in the success condition, but they lost interest in it if they were in the failure condition. Conversely, those low in self-esteem had greater interest in the task after failure, but not after success (Baumeister & Tice, 1985). This perhaps helps explain the cognitive flexibility of adaptive perfectionists

(Hamachek, 1978), and an ability to better regulate themselves in regards to their standards and moving on from areas where they are less likely to find success, whereas maladaptive perfectionists have difficulty doing this.

The authors contend these results indicate that those with high self-esteem prefer to engage in tasks that are likely to lead to success—that their primary control behaviors are aimed at emphasizing their talents and strengths rather than their weaknesses. On the other side, they argue, those with low self-esteem—with their overconcern with deficiencies of the self—are often of the belief that their efforts are inadequate. This leads them to be preoccupied with their failures, and they use primary control systems to try and repair their inadequacies (Baumeister & Tice, 1985). This conceptualization of self-esteem and failure might help explain why we see maladaptive perfectionists not have emotion regulation goals with an eye towards improving negative affect, as they are becoming preoccupied with their performance and attempt to repair the deficits in themselves that led to the perceived failure, often ruminating on the event (Frost et al., 1995; Harris, Pepper, & Maack 2007; Rice et al., 2018; Stoeber et al., 2008).

Self-esteem has also been shown to be related to emotional functioning (Brown & Marshall, 2001). This is especially true when those emotions are self-relevant. Emotions can be categorized as either self-relevant or not self-relevant. For example, it is possible to feel joy from witnessing a beautiful sunrise. This emotional experience is not self-relevant. The self is not the reference point of the joy, the sunrise is. However, one might feel joy upon being told by a boss that they have done a job well. In this case the emotional experience of joy would be self-relevant, as the self is the reference point.

Two studies have demonstrated that self-esteem plays a role in the regulation of self-relevant emotional experiences (Brown & Dutton, 1995; Brown & Marshall, 2001). These studies have shown that after a manipulated failure task aimed to induce negative self-relevant emotions, people with high self-esteem experienced less negative affect than those with low self-esteem (Brown & Dutton, 1995; Brown & Marshall, 2001). The authors further conclude that people with higher self-esteem respond to failure in a way that will try and maintain their positive self-regard (Brown & Marshall, 2001). Looking at this through the lens of perfectionism and its relationship to high and low self-esteem, it would seem this is also playing a role in how, when confronted with not meeting their standards, adaptive perfectionists again show the flexibility and self-regulation to not be overly upset by the event (Hamachek, 1978).

Other studies of self-esteem and emotion regulation have pointed towards people with low self-esteem to not only being more adversely emotionally affected by failure, but also being less motivated to regulate the resulting negative affect. In a series of studies, it was found that in regards to experiencing failure, those with low self-esteem experienced more negative affect and were less likely to attempt to improve the way they felt after their perceived failure. The authors concluded that those with low self-esteem were less motivated to repair negative affect, as they are used to feeling poorly about themselves. Furthermore, it was concluded that low self-esteem individuals were less motivated to feel better by moving past the situation, as they would attempt to repair the event which requires them to emotionally stay engaged with it (Heimpel et al., 2002).

With self-esteem, we see a factor as to why maladaptive perfectionists might both feel more negative affect after a failure, and why they might not be as motivated to repair

the resulting negative emotions. Maladaptive perfectionists, with their constant self-assessments that they are coming up short, are familiar with negative feelings about themselves. On top of this, with their drive to seek unrealistic standards, they are not motivated to feel better but rather to succeed and obtain perfection, regardless of the emotional cost. And finally, this area of literature demonstrates how failure manipulations are likely a good way to induce self-relevant negative emotions in perfectionists.

With the current literature, we get a picture of how low self-esteem could potentially influence the emotion regulation goals and regulation strategies of maladaptive perfectionists. We can see how the maladaptive perfectionist might be inclined to not repair their emotions, but rather sustain negative affect in the hopes that it would be instrumental to their unrealistic goals of perfection. However, there have been no studies to the author's knowledge that have examined perfectionism, self-esteem, and emotion regulation strategy choice together.

Mindfulness and Perfectionism

Mindfulness is both a disposition as well as a skill (Short & Mazmanian, 2013). It can describe both the practice of mindfulness, a state of awareness, and a psychological state and process (Keng, Smoski, & Robins, 2011). The root principles of mindfulness can be found in contemplative and spiritual traditions—Buddhist traditions in particular (Brown & Ryan, 2003; Keng et al., 2011). Interest in mindfulness and its possible benefits to both mental and physical wellbeing began to gain traction in the 1970s and emerged along with western interest in Zen Buddhism. During this time, meditative techniques began to be integrated into the psychotherapy work of clinicians,

psychoanalysts in particular, who were examining methods to broaden consciousness and heighten awareness (Keng et al., 2011). It was in the late 1970s that mindfulness meditation began to be used as an intervention to treat chronic pain in the work of Jon Kabat-Zinn (Keng et al., 2011).

A precise definition of mindfulness as a psychological construct can be difficult to pin down. An empirical review of mindfulness in psychology (Keng et al., 2011) found the most commonly used conceptualization of mindfulness holds that it is comprised of two parts: a person's *self-regulation of attention* to their experience in the moment, and an *orientation to experience* of nonjudgment and acceptance (Bishop et al. 2004). Self-regulation of attention refers to awareness of one's thoughts, emotions, and physical sensations in the moment. Since it is self-regulated, the person is able to voluntarily shift their attention from one thing to another, or maintain it on one specific experience.

The second mindfulness component, mindful orientation to experience, refers to an attitude of acceptance to one's own experience. It calls for a person to be open to their present state and consciously allow current events, thoughts, feelings, and sensations to take place without judgement or criticism. It is not to be mistaken as a stance of passivity, but rather of one of acceptance of the moment, leaving open the opportunity for change (Keng et al., 2011).

The elements of mindfulness as described in this definition are considered to be a protective factor against various forms of psychological distress which involve maladaptive dispositions towards avoidance, rumination, and suppression (Keng et al., 2011). Research has demonstrated this to be correct, with a number of studies indicating that people high in mindfulness have healthier psychological functioning and less

psychological distress. Furthermore, studies have also found that training in mindfulness can both increase positive psychological outcomes, as well as alleviate psychological dysfunction (Keng et al., 2011).

Considering this conceptualization of mindfulness, we can see how it would be “antithetical” to problematic perfectionism, with its preoccupations, judgements, and self-criticisms (Flett et al., 2020). As the literature to this point has demonstrated, maladaptive perfectionists have deficits in a variety of self-regulatory behavior—from difficulties with regulating where and how they apply their standards, to not being able to regulate how they view their shortcomings, and issues with emotion regulation. It is this author’s contention that it is likely that maladaptive perfectionists are lower in mindfulness than adaptive perfectionists, and that this difference is another factor contributing to differences in emotion regulation between the two.

Studies have indeed pointed to lower mindfulness in maladaptive perfectionists. One study, using the Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003), a measure of dispositional mindfulness, found that maladaptive perfectionism is associated with lower mindfulness in university students (Flett et al., 2020). The authors posit that their results indicate that maladaptive perfectionists are so preoccupied with their perfectionistic concerns that it results in lower mindfulness scores compared to non-maladaptive perfectionists (Flett et al., 2020). This would point to deficits in the self-regulation of attention component of mindfulness (Bishop et al. 2004).

Other studies have had similar findings. One study found that higher mindfulness alleviated depressive symptoms in maladaptive perfectionists, serving as a protective factor (Argus & Thompson, 2008). This was also corroborated in another study, which,

using the Positive and Negative Affect Schedule, a measure of positive and negative affect (PANAS; Watson, Clark, & Tellegen, 1988), found that individuals scoring high in maladaptive perfectionism and low in mindfulness, had elevated negative affect, also showing the protective factor of mindfulness against negative affect in perfectionism (Short & Mazmanian, 2013).

The low mindfulness found in maladaptive perfectionists can help explain the regulation of negative emotion observed in these individuals. For appropriate emotion regulation to occur, one has to be aware of their emotions. In order for appropriate regulation goals to be formulated and acted upon with appropriate strategies, the emotion has to be experienced and understood (Gross & Jazaieri, 2014). Low mindfulness is associated with lower emotional awareness, likely impacting the regulation goals and strategies of maladaptive perfectionists.

Furthermore, those high in mindfulness are more focused on the present, whereas maladaptive perfectionists become preoccupied with past mistakes and overly ambitious future goals. This influences regulation goals and strategy choice, as these preoccupations necessitate remaining in the negative affect these preoccupations bring about. And further complicating the situation, due to their frequent self-criticism and harsh self-evaluations, maladaptive perfectionists are frequently experiencing negative affect from which their regulation deficits leave them ill-equipped to repair. To the author's knowledge, there are no studies examining the relationship between perfectionism, mindfulness, and emotion regulation strategies.

Perfectionism and Reaction to Failure

Due to the maladaptive perfectionist's unrealistically high standards and vulnerability to excessive self-criticism, it stands to reason they should have a strong negative emotional response to their perceived failures. There have only been a small number of experimental studies in this area, and most confirm this relationship. However, there are some ambiguous findings as well.

One study used the concerns over mistakes subscale of the Multidimensional Perfectionism Scale (MPS; Frost et al., 1990), a subscale considered to be associated with maladaptive perfectionism (Ashby & Rice, 2002). Participants were given a computer task and exposed to either a task that would induce a high number of mistakes, versus a task that was easy, and would result in few mistakes, if any. The study found that when experiencing a high number of mistakes, individuals with high scores in the maladaptive subscale experienced greater negative mood, lowered confidence, and a sense of needing to have performed better. In comparison, individuals who did not rate as maladaptive perfectionists did not have these same negative emotion outcomes to failure (Frost et al., 1995).

The authors (Frost et al., 1995) propose that the higher levels of negative affect found in maladaptive perfectionists following perceived failure is, in part, a result of their thinking being governed by imperatives: imperative thoughts about how they should have performed, how they should have done things differently, and what they should do differently next time in this situation—similar to Horney's "tyranny of the should," (Frost et al., 1995). It is argued that these self-critical, imperative thoughts lead to heightened negative affect found in maladaptive perfectionists experiencing failure (Frost et al., 1995).

Furthermore, this style of thinking likely leads to frequent discrepancy between where someone feels their performance should be in comparison to their perceived performance. This discrepancy results in feelings of coming up short, further resulting in heightened negative affect. The fact that adaptive perfectionists were not having the same emotional experiences from the manipulated failure might suggest that they were not having the same level and intensity of these self-critical imperatives. Though the findings of this study (Frost et al., 1995) are of interest, the authors did not state the procedure used to induce feelings of failure, only explaining that it was a “computer task,” of varying difficulty, making it difficult to ascertain the extent to which participants experienced feelings of failure.

Another experiment examining perfectionism and affective responses found similar results. Participants were presented with ambiguous 3D geometric figures and tasked to identify if they were identical or not (which in reality was impossible to do). In the failure condition, manipulated feedback was used and participants were told, regardless of performance, that they had scored 2 out of 10 correctly and that this “is a very low score.” This was done repeatedly, to study the impact of repeated failure. As predicted, maladaptive perfectionists (in this case, those who were rated as socially prescribed perfectionists) had a stronger negative response to the failure condition than adaptive perfectionists (self-oriented perfectionists). The maladaptive perfectionists demonstrated heightened negative affect, anger, and anxiety on the very first failure (Stoeber et al., 2014). Adaptive perfectionists demonstrated increased anxiety after the first failure, with no other negative affect outcomes reported.

Interestingly, however, this study found that after repeated failure, adaptive perfectionists did begin to demonstrate heightened negative affect in comparison to non-perfectionists. This suggests that adaptive perfectionism can only be protective against negative reactions to failure to a certain extent, before negative outcomes begin to occur with repeated failures. Maladaptive perfectionists, however, experienced greater negative affect from the first failure in comparison to adaptive perfectionists, and this only increased with successive failures (Stoeber et al., 2014).

It is possible that with repeated failure, adaptive perfectionists begin to lose the flexibility and ability to self-regulate that otherwise allows them to put tasks and their performances into context and move on. As the event happens to them over and over again, it is possible they see the evidence of failure as becoming harder to ignore, and the design of the study is not allowing them to shift their attention from the event, which they would likely do after one failure in a natural setting.

Another study had similar results using both a manipulated failure and success task, to which participants were randomly assigned. All participants were presented with two cartoons: one presented as the original, and one as a modified version of the original. Participants were tasked to identify five differences in the two cartoons. In the success condition, the task was solvable, as the five differences were present. In the failure condition, participants were given an unsolvable cartoon containing only three differences from the original.

Individuals scoring high in conditional acceptance, a subscale of the MPS associated with maladaptive perfectionism, had greater negative responses to failure—namely increased feelings of shame and guilt (Stoeber, et al., 2008). What was also found

is that maladaptive perfectionists, in contrast to adaptive perfectionists, did not report feelings of pride when they were assigned to the success condition. This points to one of the components of maladaptive perfectionism: taking no joy or pride in performance, even if it results in success (Hamachek, 1978). The authors of this study posit that this component of maladaptive perfectionism is an important maintenance mechanism of dysfunction in problematic perfectionism, as even success offers little, if any, satisfaction (Stoeber, et al., 2008).

There are some possible explanations for this. It is suggested that perhaps certain maladaptive perfectionists do not take pride in their work as they attribute failure internally, while they attribute their success externally. The idea being that they see all failures as being theirs alone, while all successes as being attributed to outside forces that have imposed these high standards upon them. This study used the conditional acceptance subscale as the measure of maladaptive perfectionism—which measures the individual's belief that acceptance by others is conditional to performance. In this case, perhaps they are attributing their success to these external factors and are thus unable to feel pride in their success (Stoeber, et al., 2008). It is also possible that for the maladaptive perfectionist, even the success they experience is deemed unworthy of their unrealistic standards, and thus this success still becomes subject to self-criticism.

Another study examined students who had just completed a university exam. Afterwards, they completed the PANAS to determine levels of positive or negative affect. These students had previously taken the MPS and had been identified as being either self-oriented or socially prescribed perfectionists. The former is considered to be a facet of adaptive perfectionism, and the latter maladaptive (Flett, Blankenstein, & Hewitt, 2014).

This study revealed that self-oriented perfectionism was associated with more positive affect after taking a test in contrast to socially prescribed perfectionism, which experienced significantly more negative affect and less positive affect.

Furthermore, this study revealed that the maladaptive perfectionists performed significantly worse on the test than adaptive perfectionists. This suggests that the negative affect experienced by maladaptive perfectionists is, in part, a response to their perceptions of their poor performance. However, it also indicates other areas in which maladaptive perfectionism leads to negative outcomes. One idea is that the poor performance of maladaptive perfectionists is in alignment with motivational theories that suggest that having unrealistic performance goals can lead to impaired performance (Flett et al, 2014). It is also possible that the indicator of maladaptive perfectionism used in this study, socially prescribed perfectionism, leads to less motivation, as the drive for high performance is perceived to be coming externally rather than internally (Flett et al, 2014).

One experiment found results that went contrary to what might be expected in regards to perfectionistic failure response. This study evaluated the affective response to failure in self-oriented (adaptive) versus socially prescribed (maladaptive) perfectionists. Participants were randomly assigned to one of four possible conditions: easy task difficulty, hard task difficulty, positive feedback, or negative feedback. The task itself was a computer task of reaction time, which demands speed and accuracy. Upon completion of the task, performance feedback was given on the computer, independent of actual performance. The authors found that regardless of condition (task difficulty or task feedback), self-oriented perfectionists had a higher negative affective response. However, they did find that self-oriented perfectionists did have a higher positive affective response

to the positive feedback condition, in comparison to the socially prescribed perfectionists (Besser et al., 2004).

This study demonstrates the potential challenges of labeling certain dimensions of perfectionism as being simply either adaptive or maladaptive. In this case, a dimension commonly considered to be adaptive led to negative emotion outcomes. The authors of this project state that it would be important to do similar studies, using measures other than the MPS to get a better sense of what dimensions of perfectionism are connected to dysfunction (Besser et al., 2004). They also suggest that perhaps their study did not have enough of a social component (for example: a manipulated performance comparison to other participants) to illicit a strong negative response from socially prescribed perfectionists (Besser et al., 2004).

Studies have demonstrated the problematic responses to failure experienced by both maladaptive, and in one case, adaptive perfectionists. To the author's knowledge, no studies have explored what variety of regulation strategies are being used by perfectionists when they are faced with the negative emotions of failure, and what might be influencing those strategy choices.

Inducing Failure: The Remote Associates Test (RAT)

Participant task performance has been used experimentally in psychology extensively. One method has been to manipulate participants into experiences of failure. Most often this is done by means of deception (McFarlin & Blascovich, 1984), such as giving participants tasks that seem possible but are in reality impossible, or giving a participant negative feedback regardless of their actual performance. Often deceptions

such as these require the task to be vague and ambiguous, so that it might be easier to manipulate failure.

There can be drawbacks to these deceptive failure manipulations. The most common problem with deceptions such as these is participant suspicion (McFarlin & Blascovich, 1984). The participant, due to the vagueness of the task, or the impression that either the task is impossible or the feedback is not in alignment with their performance, begins to be suspicious that they are indeed being manipulated. These suspicions can result in a lessening of the potential for feelings of failure. Therefore, it can be argued, the best way to induce failure is not to use deception at all; but to manipulate the participant into failure by the difficulty of the task itself (McFarlin & Blascovich, 1984). This results in credible feelings of failure on a task that seems realistic, and with feedback in alignment with how the participant felt they actually performed.

The Remote Associates Test (RAT) is a test that can be used in such a way. Using the RAT for manipulating failure uses difficulty rather than deception, resulting in true feedback and participant's accurate perception of their performance (McFarlin & Blascovich, 1984). The RAT was designed to be a tool used to evaluate creative thinking without requiring advanced knowledge in any one area (Mednick, 1962). It is a measure that examines individual differences in the capacity to form associations from various elements into new combinations (Lee, Huggins, & Therriault, 2014). Solutions to RAT queries are found by identifying a solution word that relates to three apparently dissimilar stimuli words (Mednick, 1962). For example, a participant is presented with the words: "Shelf—read—end". The target answer word in this case would be "book".

As time passed, use of the RAT began to grow beyond just a measure of creativity. It began to be used to study psychopathology, affect, and cognitive traits linked to the creative process (traits such as memory, insight and problem solving). Furthermore, the RAT also began to see use in experimental studies of individuals' experiences with success and failure (Lee et al., 2014).

The RAT is a reliable alternative to performance manipulations that rely on deception or illusory feedback. This can be done by manipulating the difficulty of the RAT items presented to participants, varying from easy items, to very hard. This results in the participants' perceptions of their performances to be in alignment to their actual failure or success in the task. Furthermore, if feedback is provided, the feedback will match this perception (McFarlin & Blascovich, 1984). Using published norms researchers can easily manipulate subjects into experiencing either success or failure, thus reliably inducing these experiences without deception (Bowden & Jung-Beeman, 2003; McFarlin & Blascovich, 1984). One such published set comprises of 10 RAT items. With a sample of 261 participants, the mean score of correct items was 1.04 (McFarlin & Blascovich, 1984).

CHAPTER III

Statement of the Problem

While the current literature has indicated that there is heightened negative affect associated with maladaptive perfectionism (Malivoire et al., 2019), the full picture of what leads to, and maintains, that negative affect is not yet fully understood. Namely, what are the perfectionist's goals when it comes to regulating their negative emotions: is the goal to repair negative affect, or sustain it? And what strategies are used to implement those goals? The literature to date suggests that maladaptive perfectionists experience more negative affect, especially when confronted with their shortcomings, and that due to low self-esteem and low mindfulness, they use maladaptive emotion regulation strategies to regulate these feelings. Whereas, adaptive perfectionists do not experience as much negative affect, due to higher self-esteem and mindfulness, and use more adaptive emotion regulation strategies.

The emotion regulation literature suggests that the goal of regulation is not always to achieve positive affect or repair negative affect, that at times negative emotions can be instrumental and appropriate (Tamir, 2016). However, when the goal to use negative emotion is inappropriate or out of context, pathologies, such as maladaptive perfectionism, arise (Gross & Jazaieri, 2014). The literature suggests that perhaps maladaptive perfectionists are not motivated to repair negative affect as it might be seen by them as instrumental in addressing their unrealistic perceived deficiencies. These maladaptive regulation goals might then lead to regulation strategy choices that are associated with negative affect, dysfunction, and pathologies (Aldao et al., 2012).

The self-esteem literature indicates a factor that is likely contributing to maladaptive perfectionists trying to use negative affect in an instrumental manner. Individuals low in self-esteem become preoccupied with their weaknesses and mistakes, and perseverate on them in hopes of fixing the perceived deficiency (Baumeister & Tice, 1985; Baumeister et al., 1989). With low self-esteem associated with maladaptive perfectionism (Ashby & Rice, 2002), this is another factor likely contributing to overall negative affect.

Another possible factor influencing emotion regulation in perfectionism is mindfulness. Emotional awareness is necessary for appropriate emotion regulation goals (Gross & Jazaieri, 2014). If individuals are low in mindfulness, and less aware of their negative emotions, they will be less likely to repair them. Furthermore, their preoccupation with past mistakes, and high levels of self-criticism are also tied to the low mindfulness found in maladaptive perfectionism (Flett et al., 2020) and would further suggest difficulties in moving on from the negative emotions associated with perceived deficiencies and failures.

Experimental studies in perfectionism have established that failure manipulations are a sound method in examining perfectionistic cognitions. Given maladaptive perfectionists' unreasonably high standards and high levels of self-criticism, failure elicits an exaggerated negative affect response (Stoeber et al., 2014). While most studies have linked this negative response to facets associated with maladaptive perfectionism, one study has shown this response to failure with a facet associated with adaptive perfectionism (Besser et al., 2004), indicating further information in this area is

necessary. One area that has not been investigated experimentally, to the author's knowledge, is what regulation strategies are being selected in response to failure.

This study proposes a model of the regulation of negative affect in maladaptive perfectionism. This proposed model suggests that maladaptive perfectionists experience heightened negative affect in response to their perceived deficiencies, and that this negative affect is maintained, or even heightened, by the use of emotion regulation strategies associated with psychological distress. It is proposed that both self-esteem and mindfulness are contributing to this model. Low self-esteem is linked to more negative affect and perseveration on perceived mistakes, and low mindfulness is linked to low emotional awareness, and vulnerability to self-criticism, which the literature suggests can result in dysfunctional emotion regulation..

The proposed project attempted to answer the questions: What are the emotion regulation strategies employed by maladaptive and adaptive perfectionists when they are faced with the negative emotions associated with failure? And do self-esteem and mindfulness play a role in the strategy selection to repair or not repair negative affect?

Variable List

Independent Variables:

1. Perfectionism: This concept will be measured by the Almost Perfect Scale—Revised, APS-R (Slaney et al., 2001). Individuals will be grouped as either adaptive perfectionists, based on the Standards dimension of the APS-R, or they will be grouped as maladaptive perfectionists, based on the Discrepancy dimension of the APS-R.
2. Self-Esteem: This concept will be measured by the Rosenberg Self-Esteem Scale, RSES (Rosenberg, 1979). This will be measured by the sum score.

3. Mindfulness: This concept will be measured by the Mindful Attention and Awareness Scale (MAAS; Brown & Ryan, 2003). Higher scores indicate lower dispositional mindfulness.

Proposed Mediating Variables:

1. Negative Affect: This concept will be measured by the Positive and Negative Affect Schedule, PANAS (Watson et al., 1988). Participants will take the measure before and after failure task with higher Negative Affect (NA) scores indicating higher negative state affect.

Dependent Variable:

1. Emotion Regulation Strategy Choice: This concept will be measured by a self-report questionnaire as used in prior regulation strategy choice experiments (Aldao & Nolen-Hoeksema, 2012a; Aldao & Nolen-Hoeksema, 2012b). The questionnaire is designed to determine the use of seven regulation strategies (3 adaptive strategies, and 4 maladaptive) in response to an emotion eliciting stimulus, and participants will receive a composite score for both adaptive and maladaptive strategies.

Potential Covariates:

1. Demographic variables: demographic variables from the demographic questionnaire will be examined as covariates, gender in particular. While the literature has found no significant gender differences in regards to perfectionism, some gender differences in self-esteem and the use of rumination have been found (Heimpel et al., 2002).

Hypotheses

In a sample of adult participants, living in the United States and using the crowdsourcing marketplace, Prolific, it is hypothesized that:

1. There will be a significant relationship between perfectionism and emotion regulation strategy, such that:
 - a. Maladaptive perfectionism will be positively related to maladaptive emotion regulation strategy.
 - b. Adaptive perfectionism will be positively related to adaptive emotion regulation strategy.
2. The relationship between perfectionism and emotion regulation strategy will be mediated by negative affect, such that:
 - a. Maladaptive perfectionism and maladaptive emotion regulation strategy will be mediated by greater negative affect, such that there will be a significant positive indirect effect.
 - b. Adaptive perfectionism and adaptive regulation strategy will be mediated by lower negative affect, such that there will be a significant positive indirect effect.
3. The relationship between perfectionism and negative affect will be moderated by self-esteem, such that:
 - a. The relationship between maladaptive perfectionism and negative affect will be stronger and more positive as self-esteem decreases.
 - b. The relationship between adaptive perfectionism and negative affect will be weaker and more negative as self-esteem increases.
4. The relationship between perfectionism and emotion regulation strategy will be moderated by mindfulness; such that:
 - a. For maladaptive perfectionism the relationship to maladaptive emotion regulation strategy will be stronger and more positive as mindfulness decreases.

- b. For adaptive perfectionism the relationship to adaptive emotion regulation strategy will be stronger and more positive as mindfulness increases.
5. The mediated relationship between perfectionism, negative affect, and emotion regulation strategy, will be moderated by self-esteem, and mindfulness, such that:
- a. The indirect effect of maladaptive perfectionism on maladaptive emotion regulation strategy will be stronger and more positive at higher negative affect, and lower self-esteem and mindfulness.
 - b. The indirect effect of adaptive perfectionism on adaptive emotion regulation strategy will be stronger and more positive at lower negative affect, and higher self-esteem and mindfulness.

CHAPTER IV

Method

Participants

The majority of studies in the perfectionism literature have used college students as participants, likely for reasons of convenience. This study broadens the literature by using participants outside of the university setting. The issues of perfectionism and dysfunctional emotion regulation is something that likely affects individuals outside of higher education, and this study hoped to capture that with results that can be better generalized. With this in mind, the sample pool consisted of adults living in the United States using Prolific. For inclusion, all participants were required to be English speaking, complete all questionnaires, and complete the manipulated failure task. It was determined that a total of 350 participants or more would be needed as determined via power analysis using the web app Monte Carlo Power Analysis for Indirect Effects (Schoemann, Boulton, & Short, 2017) for a calculated power of .90 at an alpha of .05.

A total of 1,039 consented to participate in the study. Only those who scored as perfectionists (either adaptive or maladaptive) were included. Non-perfectionists were not included. Sorting participants in this way was done using the APS-R measure (Slaney et al., 2001). Therefore, out of a sample of 1,039 participants, there were 535 non-perfectionists who were not included, as well as 168 participants who failed validity checks, who were also excluded. This left a sample of 336 perfectionists. Of those perfectionists, 174 were adaptive perfectionists (20.00%) and 162 were maladaptive perfectionists (18.60%).

Measures

Demographic Questionnaire. A demographic questionnaire was used to assess participants' age, gender, race, ethnicity, and employment status.

The Almost Perfect Scale-Revised. The APS-R (Slaney et al., 2001) was used to determine maladaptive and adaptive perfectionism. The measure has three subscales: standards, which assesses having high personal standards and strivings, and is considered to be an adaptive perfectionistic trait. Discrepancy, which measures an individual's feeling that there is a discrepancy between how they perform and where they feel should be, and is considered to be a dimension of maladaptive perfectionism. Order, the need for high order and organization, is the final subscale, but was not used in this study as it has not been found to be a key dimension of perfectionism (Rice & Ashby, 2007).

The ASP-R consists of 23 questions that are answered on a scale of 1-to-7 (1: "Strongly disagree," to, 7: "Strongly agree"). Reliability in a sample of 809 undergraduates for the standards subscale was .86, and was .92 for discrepancy. The mean age of the sample was 19.23 years-old (SD=3.79) and the age range 17-to-43-years-old (Slaney et al., 2001).

Participants in this study were given a rating of either adaptive or maladaptive perfectionism. Adaptive perfectionists were identified by a standard score equal to, or greater than 42, and a discrepancy score less than 42. Maladaptive perfectionists were indicated by a discrepancy score equal to, or greater than 42. Scores not reaching those cutoffs are considered non-perfectionists and were not included (Rice & Ashby, 2007). Using these cutoffs, in a sample of 1,537 university students, it was found that 42% rated

as adaptive perfectionists, 27% as maladaptive perfectionists, and 32% as non-perfectionists (Rice & Ashby, 2007).

Rosenberg Self-Esteem Scale. The RSES (Rosenberg, 1979) consists of 10 statements that are a measure of self-esteem. For example, “I feel that I am a person of worth, at least on an equal plane with others.” Participants respond on a 4-point Likert scale (1: “Strongly agree,” to 4: “Strongly disagree”). After reverse scoring for 5 items that are negatively worded, a sum score is tabulated. The scale ranges from 0-30. Scores ranging between 15 and 25 are considered normal self-esteem levels. Scores below 15 indicate low self-esteem.

In a sample which included 503 participants from across the United States, reliability for the RSES was .91. The sample included a roughly equal number of men and women (51.9% female) and a mean age of 44.7 years old ($SD=16.3$), and an age range of 18-87 years old. 71.5% were Caucasian, 60.5% were employed, and roughly half had some college education, 54.8% (Sinclair et al., 2010).

Mindful Attention Awareness Scale. The MAAS (Brown & Ryan, 2003) is a measure of mindfulness disposition, consisting of 15 items. The measure consists of day-to-day experiences (sample: “I find myself preoccupied with the future or the past”) and score them on a 6-point Likert scale (1: “almost always,” to 6: “almost never”). Scores are computed by mean with higher averages indicating higher levels of mindful disposition.

In a sample of 327 university students, the measure had an internal consistency of .82. In a sample from a general population of 239 adults from 48 states within the United States, the alpha was .87. In the college sample, the average score of mindfulness

was found to be 3.83 ($SD=.7$), and the average score in the general adult sample was found to be 4.2 ($SD=.69$) (Brown & Ryan, 2003).

Positive and Negative Affect Schedule. The PANAS (Watson, et al., 1988) is a 20-item self-report measure that is designed to assess the participant's current mood state, from positive affect (PA) to negative (NA). Participants are asked how they feel in the current moment on a 5-point Likert scale from, "Very Slightly or Not at All" (1), to "Extremely," (5), when given affective terms such as "Inspired," or "Distressed." For PA scores can range from 10-50, with higher scores indicating higher levels of PA. Scores for NA can also range from 10-50 with higher scores indicating higher levels of negative affect. Reliability for PA is $\alpha=.89$, and $\alpha=.85$ for NA. While initially developed with a student sample it has been found to be representative of the larger adult population. Mean scores for PA were 33.3 ($SD=7.20$) and mean scores for NA were 17.4 ($SD=6.20$)

Emotion Regulation Strategy Choice Questionnaire (Maladaptive and Adaptive). A series of emotion regulation strategy studies share a self-report measure designed to identify state regulation strategy choices employed by participants in response to an affective stimulus (Aldao & Nolen-Hoeksema, 2012a; Aldao & Nolen-Hoeksema, 2012b; Aldao, Jazaieri, Goldin, & Gross, 2014; Dixon-Gordon, Aldao, & De Los Reyes, 2014; Dixon-Gordon, Aldao, & De Los Reyes, 2015; Dixon-Gordon, Fitzpatrick, & Haliczzer, 2021; Haliczzer, Woods, Dixon-Gordon, 2020). The questionnaire addresses seven regulation strategies (Acceptance, Problem Solving, Reappraisal, Self-Criticism, Hiding Expressions, Suppressing Experience, Worry/Rumination) and the participants are asked to rate on a scale of 1 ("not at all") to 4 ("a lot") the extent to which they used each of the strategies in response to an affective

stimulus. Higher scores indicate more use of that strategy. The authors provided the participants “with brief descriptions of the behavioral repertoires that correspond to the way in which each strategy is commonly conceptualized in the literature,” (Aldao & Nolen-Hoeksema, 2012a, p. 495). For example, problem solving is measured by: “Come up with ideas to change the situation or fix the problem,” and worry/rumination: “Worry or ruminate about the situation,” (Aldao & Nolen-Hoeksema, 2012a).

Regulation strategies in this questionnaire are considered adaptive or maladaptive as per prior research (Aldao et al., 2010), and it was determined if participants are using more adaptive or maladaptive regulation strategies in response to their perceived failure. This is determined by which domain has the higher mean score, that is, if a participant has a higher score in adaptive compared to maladaptive, they are labeled as using adaptive emotion regulation strategies. Conversely, if they have a higher maladaptive score, they are labeled as maladaptive emotion regulation strategy choice. One study found the internal consistency of this measure to be questionable to excellent (.68-.90 for maladaptive strategy, and .62-.78 for adaptive) (Dixon-Gordon et al., 2021). In a general sample of 111 participants recruited online, it was found that adaptive emotion regulation strategies were used 19% more than maladaptive regulation strategies in a variety of different emotion inducing scenarios (Aldao & Nolen-Hoeksema, 2012a).

Procedure

Recruitment occurred through the Prolific website with the promise of monetary compensation of \$3. Participants received a Prolific ID number, and using Qualtrics, they completed the demographic questionnaire, the APS-R, the RSES, MAAS, and the PANAS. Participants were then induced to experience failure. Failure was manipulated

using the Remote Associates Test (RAT) (Mednick, 1962) in a paradigm used in several other studies (Brown & Dutton, 1995; Brown & Marshall, 2001; Park, Crocker, & Kiefer, 2007). The task was presented to participants as a measure of intelligence and creative thinking. Participants were shown three words and were tasked to find a fourth, target word that relates in some way to the three stimulus words. On their computer, participants were then given three sample problems both to practice and to ensure understanding of how RAT problems are to be successfully completed. After completion of the sample problems, participants were informed that the test itself consists of 10 problems, and that they will be given 5 minutes to solve the set. The difficulty of the 10 selected questions were based on published norms for the induction of failure (McFarlin & Blascovich, 1984).

Upon completion, participants were then given their score along with false normative statistics stating that the average participant scored 6 or more of the 10 questions correctly. This score is virtually unreachable, resulting in failure. Upon failing the task, participants once again completed the PANAS, and the emotion regulation strategy choice measure, thereby completing the study. Upon completion, participants were debriefed and told of the deception of the failure task. Resources were then provided should participants have had a negative reaction to the experiment.

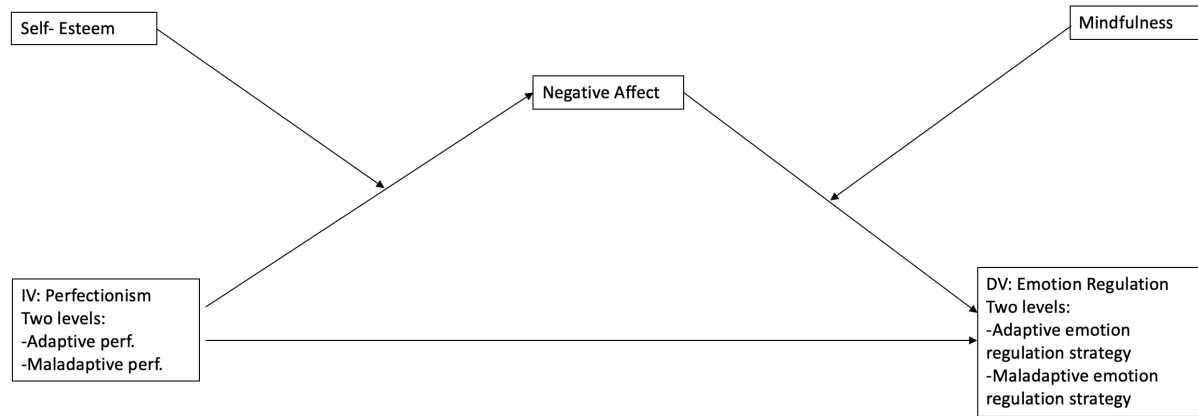
Data Analytic Plan

Preliminary analyses were run using descriptive statistics. Variables were evaluated for normality, skewness, and kurtosis. If data was found to not be normal, transforming the data would have been explored. Measures were examined for reliability.

This study examined a moderated mediation model. SPSS was used to analyze data using the PROCESS version 4.1 macro (Hayes, 2022). Effects were bootstrapped with 1,000 samples and bias corrected bootstrap 95% confidence intervals were used to determine significance. This is a moderated mediator with two moderators. This study used both Hayes Model 4 and Model 21 (Hayes, 2018). Hypotheses 1 and 2 were tested with Model 4, and Hypotheses 3, 4, and 5 used Model 21.

The model explored the mediating role of negative affect on the relationship between perfectionism dimensions and emotion regulation strategy choice. The moderating roles of self-esteem and emotional awareness was also tested. This was run as one model. The independent variable, perfectionism, is dichotomous with two levels, a: maladaptive perfectionism, and b: adaptive perfectionism. The dependent variable, emotion regulation strategy, is also dichotomous, with two levels, a: maladaptive emotion regulation strategy, and b: adaptive emotion regulation strategy. See Figure 1 for model.

Figure 1

Model

CHAPTER V

Results

This results section will be comprised of several parts. First: sample selection and missing data will be reviewed, followed by demographics, and then followed by an analysis of the reliability of the measures used. Then there will be preliminary analyses and descriptive statistics, intervariable correlations, and, finally, the main analysis of the moderated mediation hypothesis.

Sample Selection and Missing Data

A total sample of 1,039 participants consented to participate in this study on the Prolific crowdsourcing website. Successfully completing the study and inclusion in the study required finishing the study, and passing validity checks (not completing the study in under 10 minutes, not completing the study from a duplicate IP address, recording the same age in two different locations). All questions were forced choice, so there was no missing data. Furthermore, as a study of perfectionism, only those who scored as perfectionists (either adaptive or maladaptive), as determined by the APS-R measure, were included. In this way, out of an initial sample of 1,039, a valid sample of 336 participants remained, as 168 failed validity checks, and 535 were non-perfectionists (61.40%) (also determined by the APS-R). In the end, there were 174 adaptive perfectionists (20.00%) and 162 maladaptive perfectionists (18.60%).

Participant Demographics

Of the 336 valid participants, there were 162 females (48.2%), 171 males (50.9%), and 3 who identified as “Other” (0.9%). Participant age ranged from 19 to 79

($M = 42.44$, $SD = 14.27$). The sample was majority Caucasian comprising of 81% ($n = 272$) of the sample. See Table 1 for further participant demographic information.

Reliability

The reliability of all measures was analyzed using Cronbach's Alpha. This analysis indicated that the majority of the measures ranged from having acceptable to excellent reliability. One variable, however, Adaptive Emotion Regulation Strategy Choice, was found to have poor reliability ($\alpha = .521$). It was found that by removing one of the measure's items ("Allow or accept your feelings"), reliability increased to an alpha of .691. Of the three adaptive strategies, this "acceptance" strategy suggests more of a passive approach to emotion regulation, in comparison to the other two strategies: problem solving, and reappraisal. This is in keeping with the maladaptive strategies as well, which are all also active in their approach: self-criticism, hiding expressions, suppression, worry/rumination. This makes "acceptance," the outlier of the 7 strategies, therefore it was decided to remove the item. See Table 2 for reliability statistics.

Preliminary Analysis and Descriptive Statistics

Preliminary analyses to evaluate the data for normality, skewness, and kurtosis were run using descriptive statistics. Distributions of all variables were found to be normally distributed ($\text{skewness} < |2.0|$ and $\text{kurtosis} < |2.0|$) except for the first administered PANAS, which showed skewness of 2.39 ($SE = .133$), and kurtosis of 6.04 ($SE = .265$); and the second administration of the PANAS, with a kurtosis of 2.03 ($SE = .265$). This skew and kurtosis can be expected when collecting data in a healthy population, and it has been argued that data are considered normal if skewness falls between -2 and 2, and kurtosis falls between -7 and 7 (Bryne, 2010; Hair, Black, Babin,

Table 1
Participant Race and Ethnicity

Race	<i>n</i>	%
African American	34	10.10
Asian/Pacific Islander	14	4.20
Caucasian	272	81.00
Native American/Alaska Native	2	0.60
Latino/Latina/Latinx	1	0.30
Other	11	3.30
I Prefer Not to Answer	3	0.90

Table 2
Alpha Coefficients

Scale	N items	Alpha
Adaptive Perfectionism (APS-R)	7	.897
Maladaptive Perfectionism (APS-R)	12	.960
RSES	10	.944
MAAS	15	.919
PANAS (1 st administration)	20	.924
PANAS (2 nd administration)	20	.923
Adaptive ER Strategy Score	2	.691
Maladaptive ER Strategy Score	4	.707

Note. $N = 336$. APS-R = Almost Perfect Scale-Revised (Slaney et al., 2001); RSES = Rosenberg Self-Esteem Scale (Rosenberg, 1979); MAAS = Mindful Attention Awareness Scale (Brown & Ryan, 2003); PANAS = Positive and Negative Affect Schedule (Watson et al., 1988); ER = Emotion Regulation.

& Anderson, 2010), therefore transformations were not used to normalize the data. See Table 3 for the descriptive statistics of the primary study variables.

The independent variable, two levels of perfectionism, adaptive and maladaptive, was determined using the APS-R. Adaptive perfectionists were identified by a standard score (a subscale of the APS-R) equal to, or greater, than 42, and a discrepancy score less than 42 (another subscale of the APS-R). Scoring procedure were taken from prior research of the APS-R measure (Rice & Ashby, 2007). Maladaptive perfectionists were identified by a discrepancy score equal to, or greater than 42. Scores that did not reach those cutoffs are considered non-perfectionists and were not included in the final analysis. In this study, there were 535 non-perfectionists (61.40%), 174 adaptive perfectionists (20.00%) and 162 maladaptive perfectionists (18.60%).

The dependent variable, two levels of emotion regulation strategy choice, adaptive and maladaptive, was determined using a self-report measure (Aldao & Nolen-Hoeksema, 2012a). The measure assesses the use of seven different emotion regulation strategies in a given moment, three adaptive and four maladaptive. To determine whether a person is using more adaptive or maladaptive strategy choices, the mean score of each domain is obtained, and whichever domain has the higher mean score determines their regulation strategy choice method, adaptive or maladaptive. As mentioned above, one of the adaptive emotion regulation strategy choices, acceptance, was removed from the study for reliability reasons. In this study, 260 participants responded to the manipulation using more adaptive emotion regulation strategy choices (77.4%), compared to the 76 participants who used more maladaptive emotion regulation strategy choices (22.6%).

Covariate Analysis

Table 3

Descriptive Statistics for Primary Study Variables

Variable	Min	Max	Mean	SD	Skewness		Kurtosis	
					Statistic	Std. Error	Statistic	Std. Error
ER Adaptive Score	1.00	4.00	2.44	.940	-.078	.133	-1.05	.265
ER Maladaptive Score	1.00	4.00	1.97	.815	.560	.133	-.50	.265
MAAS	1.07	6.00	4.30	.963	-.431	.133	-.21	.265
PANAS, 1 st Admin	10.0	46.0	14.19	6.72	2.39	.133	6.04	.265
PANAS 2 nd Admin	10.0	46.0	16.30	7.94	1.58	.133	2.03	.265
Adaptive Perfectionism (APS-R)	42.0	49.0	44.67	2.34	.484	.133	-1.07	.265
Maladaptive Perfectionism (APS-R)	12.0	84.0	44.50	20.00	.318	.133	-1.06	.265
Self-Esteem (RSES)	0.00	30.0	21.26	7.03	-.680	.133	-.14	.265

Note. $N = 336$. ER = Emotion Regulation; MAAS = Mindful Attention Awareness Scale (Brown & Ryan, 2003); PANAS = Positive and Negative Affect Schedule (Watson, et al., 1988); APS-R = Almost Perfect Scale-Revised (Slaney et al., 2001); RSES = Rosenberg Self-Esteem Scale (Rosenberg, 1979).

Covariate analyses were conducted to determine if there were associations between demographic variables with the dependent variable, emotion regulation strategy choice, either adaptive or maladaptive ER strategy. An independent samples t-test showed that people who used adaptive emotion regulation strategies ($M = 44.43$, $SD = 13.68$) did not have significant age difference than those who used maladaptive emotion regulation strategies ($M = 39.64$, $SD = 14.67$), $t(334) = 3.07$, $p = .25$. Chi-square tests were conducted on gender, race, Hispanic or not Hispanic, and marital status (see Table 4). Of all of these conducted tests, only marital status had a significant association with the DV, in that there was a significant association between marital status and ER strategy choice ($\chi^2(4, N=336) = 9.66$, $p = .047$). The difference lay in the married group, with married participants being more likely to choose Adaptive ER strategies ($n = 131$, 82.9%) than Maladaptive ER strategies ($n = 27$, 17.1%). See Tables 5, 6, 7, and 8, for crosstabulation of emotion regulation strategy choice type and the demographic variables.

Intervariable Correlations

Pearson correlations were conducted to examine the interrelationships among the study variables (see Table 9). Adaptive emotion regulation strategy choice was not positively associated with mindfulness (MAAS), self-esteem (RSES), or adaptive perfectionism. Maladaptive emotion regulation strategy choice was significantly negatively associated with mindfulness (MAAS), significantly associated with negative affect (both PANAS administrations), significantly negatively associated with self-esteem (RSES), and significantly associated with maladaptive perfectionism (APS-R).

Table 4
Chi-square Tests for Associations Between Demographics and Emotion Regulation Strategy Choice

Variable	χ^2	<i>df</i>	<i>p</i>
Gender	5.07	2	.08
Marital Status	9.66	4	.04*
Race	4.31	5	.51
Hispanic	1.54	2	.46

Note. $N = 336$.

* $p < .05$

Table 5

Crosstabulation for Emotion Regulation Strategy Choice and Gender

Categorical Variable	Gender			Total N (%)
	Female N (%)	Male N (%)	Other N (%)	
Maladaptive ER Strategy	41 (25.3)	33 (19.3)	2 (66.7)	76 (22.6)
Adaptive ER Strategy	121 (74.7)	138 (80.7)	1 (33.3)	260 (77.4)
Total	162 (100.0)	171 (100.0)	3 (100.0)	336 (100)

Note: $\chi^2 (2, N=336) = 5.07, p = .079$

Table 6
Crosstabulation for Emotion Regulation Strategy Choice and Marital Status

		Marital Status					
Categorical	Single	Cohabiting/ Partnered	Married	Widowed	Divorced	Total	
Variable	<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)	
Maladaptive ER Strategy	34 (27.6)	2 (16.7)	27 (17.1)	4 (57.1)	9 (25.0)	76 (22.6)	
Adaptive ER Strategy	89 (72.4)	10 (83.3)	131 (82.9)	3 (42.9)	27 (75.0)	260 (77.4)	
Total	123 (100.0)	12 (100.0)	158 (100.0)	7 (100.0)	36 (100.0)	336 (100.0)	

Note: $\chi^2 (4, N = 336) = 9.66, p = .047$

Table 7
Crosstabulation for Emotion Regulation Strategy Choice and Race

Categorical Variable	Race						Total N (%)
	Caucasian N (%)	African American N (%)	Native American/Alaska Native N (%)	Asian/Pacific Islander N (%)	Other N (%)	I prefer not to answer N (%)	
Maladaptive ER Strategy	60 (22.1)	7 (20.6)	0 (0.0)	6 (42.9)	2 (18.2)	1 (33.3)	76 (22.6)
Adaptive ER Strategy	212 (77.9)	27 (79.4)	2 (100.0)	8 (57.1)	9 (81.8)	2 (66.7)	260 (77.4)
Total	272 (100.0)	34 (100.0)	2 (100.0)	14 (100.0)	11 (100.0)	3 (100.0)	336 (100.0)

Note: $\chi^2 (5, N=336) = 4.31, p = .506$

Table 8

Crosstabulation for Emotion Regulation Strategy Choice and Hispanic/Non-Hispanic

Categorical Variable	Hispanic/Non-Hispanic			Total <i>N</i> (%)
	Hispanic <i>N</i> (%)	Non- Hispanic <i>N</i> (%)	Prefer not to Answer <i>N</i> (%)	
Maladaptive ER Strategy	3 (15.0)	72 (22.9)	1 (50.0)	76 (22.6)
Adaptive ER Strategy	17 (85.0)	242 (77.1)	1 (50.0)	260 (77.4)
Total	20 (100.0)	314 (100.0)	2 (100.0)	336 (100.0)

Note: $\chi^2 (2, N=336) = 1.54, p = .46$

Table 9
Intervariable Correlations

<i>Variable</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>
1. ER Strategy Choice	1.00						
2. MASS	.264**	1.00					
3. PANAS (1 st admin)	-.242**	-.472**	1.00				
4. PANAS (2 nd admin)	-.309**	-.425**	.777**	1.00			
5. RSES	.293**	.551**	-.563**	-.478**	1.00		
6. Adaptive Perfectionism (APS-R)	.004	.151**	-.017	-.051	.131*	1.00	
7. Maladaptive Perfectionism (APS-R)	-.291	-.537**	.523**	.428**	-.786**	.009	1.00

Note. ER = Emotion Regulation Strategy Choice; MAAS = Mindful Attention Awareness Scales (Brown & Ryan, 2003); PANAS = Positive and Negative Affect Schedule (Watson, et al., 1988); RSES = Rosenberg Self-Esteem Scale (Rosenberg, 1979); APS-R = Almost Perfect Scale-Revised (Slaney et al., 2001).

N=336.

* $p < .05$; ** $p < .01$

These correlations were all in the expected directions.

Mindfulness was negatively associated with negative affect (in both PANAS administrations), positively associated with self-esteem (RSES), positively associated with adaptive perfectionism (APS-R), and negatively associated with maladaptive perfectionism (APS-R). These correlations were all in the expected directions.

And finally, negative affect (both PANAS administrations) was positively associated with maladaptive perfectionism (APS-R). Self-Esteem was positively associated with adaptive perfectionism (APS-R) and negatively associated with maladaptive perfectionism (APS-R). All of these correlations were also in the expected direction.

Main Analyses

Hypothesis 1

The first hypothesis proposed a significant relationship between perfectionism type (perfectionism type, coded 0 = adaptive perfectionist, 1 = maladaptive perfectionist) and emotion regulation strategy choice (emotion regulation strategy choice, coded 0 = maladaptive, 1 = adaptive). The direct path was significant. Perfectionism type was shown to be significantly related to emotion regulation strategy choice when controlling for negative affect (M), $b = -1.33$, $z = -4.46$, $p < .001$, $OR = .26$. This indicates that maladaptive perfectionists had lower odds of choosing adaptive ER strategies than adaptive perfectionists, and vice versa.

Hypothesis 2

The second hypothesis predicted a mediating role of negative affect on the relationship between perfectionism type and emotion regulation strategy choice. This

mediation model was conducted using Hayes' Process Macro 4.1 (Model 4; Hayes, 2022), with 1,000 bootstrap samples and bias corrected 95% confidence intervals to determine significance. Age was included as a covariate. Standardized coefficients were not produced, and unstandardized coefficients are reported.

Results indicate that the *a* path of perfectionism type to negative affect was not significant, $b = .254$, $t = 0.45$ $p = .65$. This indicates that perfectionism type was not associated with negative affect change. The *b* path, from negative affect change to emotion regulation strategy choice was significant, $b = -.070$, $z = -2.735$, $p = .006$, OR = .93. This indicates that negative affect change was significantly associated with emotion regulation strategy choice, with an odds ratio of .93, indicating that the more there was an increase in negative affect after failure, the lower the odds of choosing positive ER strategies, with the odds decreasing .07 for each point of negative affect.)

The indirect effect was not significant ($b = -.018$, 95% CI [-.104, .069], OR = .98). Therefore, the effect of perfectionism type on emotion regulation strategy choice was not due to the impact of negative affect change. The size of the effect is very small, and indicates virtually identical odds of choosing adaptive ER strategy for both perfectionism types. This does not support the hypothesis. See Table 10 and Figure 2 for more information of the mediation analysis.

Hypothesis 3, 4, and 5

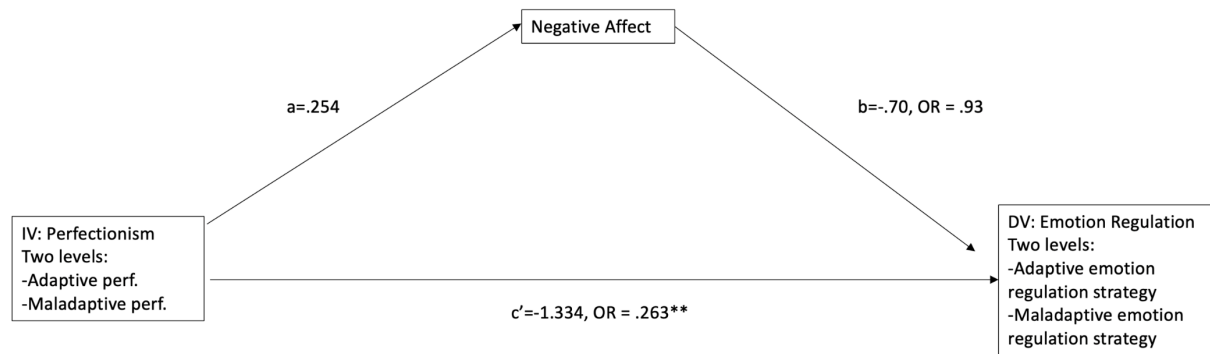
It was hypothesized that self-esteem and mindfulness would moderate the mediation relationship between perfectionism type, negative affect, and emotion regulation strategy choice. Specifically, it was hypothesized that self-esteem would moderate the path from perfectionism type to negative affect (first stage moderation), and

Table 10
Mediation Model Results

Path	B (Odds Ratio)	SE	<i>t or (z)</i>	<i>p</i>	95% CI Bootstrapped	
					Lower Limit	Upper Limit
Perfectionist type to negative affect	.254 (--)	.567	4.36	.654	-.86	1.37
Negative affect to ER strategy choice	-.070 (.93)	.026	(-2.73)	.006	-.12	-.02
Direct effect)	-1.334 (.26)	.299	(-4.46)	< .001	-1.92	-.75
Indirect effect	-.018 (.98)	.042	--	<i>ns</i>	-1.10	.07

Note. $N = 336$.

Figure 2
Simple Mediation Model



Note. $N = 336$. 0 = adaptive perfectionist, 1 = maladaptive perfectionist. Indirect effect = $-.018$, 95% CI $[-.104, .069]$, OR = .9

mindfulness would moderate the path from negative affect to emotion regulations strategy choice (second stage moderation). The model was tested using Hayes' Process Macro 4.1 (Model 21; Hayes, 2022). Effects were bootstrapped with 1,000 samples and bias corrected bootstrap 95% confidence intervals were used to determine significance. The index of moderated mediation was not significant (IMMM index = .007, CI = -.005, .033), indicating there is no moderated mediation effect.

The first stage of moderation predicted that self-esteem would moderate the relationship between perfectionism type and change in negative affect. This interaction effect was not significant ($b = 0.17$, $t = 1.45$, $p = .15$), with the interaction only explaining 0.63% of the variation in the mediator. This indicates that for all levels of self-esteem, the relationship between perfectionism type and negative affect change was the same. In fact, the conditional effects (the slope of the relationship between perfectionism type and negative affect change, at low, average, and high levels of self-esteem) were all nonsignificant. They were essentially zero, ranging from -.95 for low self-esteem, to 1.53 for high self-esteem (low self-esteem: $b = -.95$, $t = -.75$, $p = .45$; high self-esteem: $b = 1.53$, $t = 1.54$, $p = .12$).

The second stage of the moderation predicted that mindfulness would moderate the relationship between negative affect change and emotion regulation strategy choice. This interaction effect was also not significant ($b = 0.05$, $z = 1.39$, $p = .16$). This indicates that for all levels of mindfulness, the relationship between negative affect change and emotion regulation strategy choice was the same. In fact, the conditional effects (the slope of the relationship between negative affect change and emotion regulation strategy choice, at low, average, and high levels of mindfulness) were all nonsignificant. They

were essentially zero, ranging from -.09 for low mindfulness, to -.003 for high mindfulness (low mindfulness: $b = .09$, $z = -2.92$, $p = .003$; high mindfulness: $b = -.003$, $z = -.05$, $p = .96$). See Table 11 and Figure 3. The hypothesis was not supported.

Summary of Results

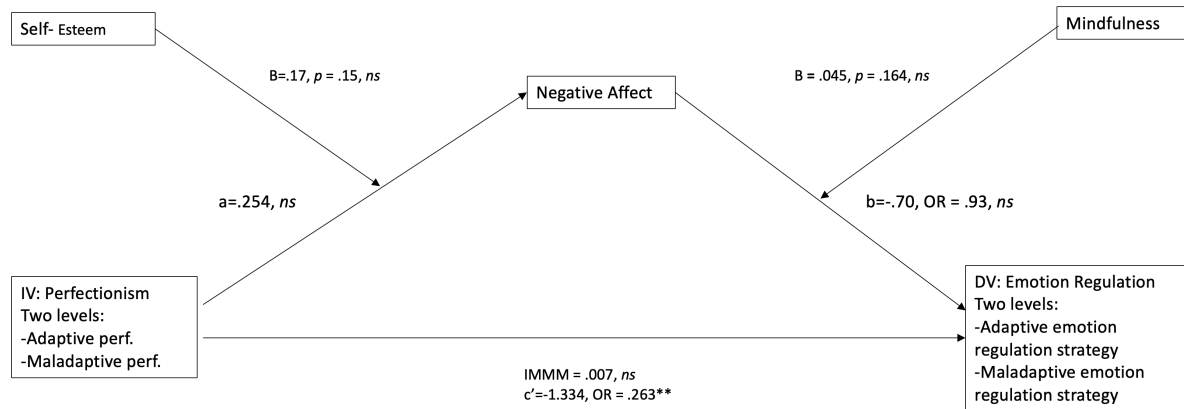
This study's proposed model of a moderated mediation, which posited a mediated relationship between perfectionism, negative affect, and emotion regulation strategy, moderated by self-esteem and mindfulness, was not supported. This study also proposed that the relationship between perfectionism type and emotion regulation strategy choice would be mediated by negative affect, this hypothesis was also not supported. Nor was the hypothesis that the relationship between perfectionism type and negative affect would be moderated by self-esteem. Similarly, the hypothesis that the relationship between perfectionism type, emotion regulation strategy choice would be moderated by mindfulness was not supported. However, the hypothesis that there would be a significant relationship between perfectionism type and emotion regulation strategy choice was supported, as perfectionism type was shown to be significantly related to emotion regulation strategy choice when controlling for negative affect, such that maladaptive perfectionists had lower odds of choosing adaptive ER strategies than adaptive perfectionists.

Table 11
Moderated mediation table

Variable	On Mediator (Negative Affect)			On Outcome (ER Strategy)		
	β	SE	<i>p</i>	β	SE	<i>p</i>
				(OR)		
Marital Status	-.582	.576	.313	.141	.032	.164
PerfGp (A)	.252	.758	.739	-1.03	.316	.001
SelfEst (B)	-.083	.096	.389	--	--	--
A X B	.165	.114	.149	--	--	--
NegAffCh	--	--	--	-.049	.031	.119
(C)						
Mindfulness	--	--	--	.496	.162	.002
(D)						
C X D	--	--	--	.045	.032	.164

Note $N = 336$.

Figure 3

Moderated Mediation Model

Note: $N = 336$. * $p < .05$; ** $p < .01$, ns = not significant. 0 = adaptive perfectionist, 1 = maladaptive perfectionist

CHAPTER VI

Discussion

Purpose of the Project

As a construct, perfectionism has been contemplated and studied by the very earliest clinicians. Over the course of research on perfectionism, ideas about the concept have evolved. From the time of it being discussed by early and “master” clinicians such as Freud, Adler, and Horney (Hewitt, Flett, & Mikail, 2017), it was primarily considered to be a negative personality trait and was being equated with poor mental health outcomes. And these outcomes are indeed negative, as research has demonstrated the role perfectionism can play in depression, anxiety, personality disorders, eating disorders, and suicidality (Malivoire et al., 2019). However, over time, a more complex view of perfectionism began to evolve: one which considered a multidimensional view, that perfectionism might be considered maladaptive as well as adaptive in some individuals. That while some people’s perfectionism can result in negative mental health consequences, there are others who are perfectionists, but without those negative consequences. That, in fact, actually demonstrate some benefits from their perfectionism, such as having high levels of self-efficacy and high self-esteem (Frost et al., 1990).

Working from the concept of a multidimensional perfectionism, previous studies have been attempting to better understand factors that will determine what contributes to perfectionism with negative outcomes, versus perfectionism without those negative outcomes, or even with positive ones. In short, what makes one person’s perfectionism lead to distress and pathology, versus someone who is a perfectionist, but does not have any

negative mental health consequences, but even might have greater self-efficacy and self-esteem?

One of the primary drivers for negative mental health issues resulting from perfectionism is due to the negative affect associated with the perfectionists who feel they are not living up to their own overly strict and rigid standards. This feeling of discrepancy is not something that is experienced by individuals who are classified as adaptive perfectionists. This study investigated a proposed model that maladaptive perfectionists experience heightened negative affect in response to that discrepancy and those perceived deficiencies, and that this negative affect is maintained, or even heightened, by the use of maladaptive emotion regulation strategies which are themselves associated with psychological distress and pathology. Furthermore, it investigated whether low self-esteem, and low-mindfulness (both attributions of maladaptive perfectionists) contribute to that model.

Summary and Explanation of Key Findings

Perfectionism Type and Emotion Regulation Strategy Choice

It was hypothesized that perfectionist type, adaptive or maladaptive, would predict the type of emotion regulation strategies used after experiencing a failure. That maladaptive perfectionists would use emotion regulation strategies that are maladaptive, and that adaptive perfectionists would use strategies that are adaptive. This prediction was supported in the study: maladaptive perfectionists had lower odds of choosing adaptive emotion regulation strategies than adaptive perfectionists did, and were more likely to use maladaptive strategies; and, conversely, adaptive perfectionists had lower

odds of choosing maladaptive emotion regulation strategies, and were more likely to use adaptive ones.

This demonstrates that immediately after being faced with a failure, maladaptive perfectionists are using emotion regulation strategies that are associated with negative affect, psychological distress and pathology (Aldao et al., 2010). This illustrates how maladaptive perfectionists, who are already vulnerable to increased negative affect due to not living up to overly high, and rigid standards, are reacting to not meeting these standards with emotion regulation strategy choices that are unlikely to be effective, and are in fact associated with poor mental health outcomes.

Conversely, in this study, adaptive perfectionists are not responding to failure in the same way. They are shown to be reacting to the failure by using emotion regulation strategies associated with more positive outcomes and less pathology (Aldao et al., 2010; John & Gross, 2004). They are less likely to respond to the negative emotions of failure by engaging in cognitions such as rumination, and self-criticism (which are associated with negative emotional and mental health outcomes, and prolong, if not even increase, negative affect (Aldao et al., 2010; John & Gross, 2004)). Rather they are using cognitive strategies, such as reappraisal and problem solving. This allows them to improve their affect in the moment of failure, and demonstrates a more adaptive way of managing their emotions in general (Aldao et al., 2010; John & Gross, 2004).

This result is in alignment with what past perfectionism and emotion regulation literature suggest would be found in an experiment such as this. Prior survey studies have shown that there is an association between perfectionism and higher use of rumination over reappraisal (Rudolph et al., 2007), and that rumination, in general, plays a large role

in problematic perfectionism (O'Connor, et al., 2007). To the author's knowledge, this is the first study to experimentally assess the emotion regulation strategy choices, adaptive or maladaptive, of perfectionists immediately after failure, to determine which perfectionist group is more likely to use which. Prior studies have either been survey studies, focusing on cognitions such as rumination (Flett et al., 2002; O'Connor et al., 2007; Rudolph et al., 2007), or the several experimental studies which mainly focused on changes in affect and assorted cognitions between the two groups (Besser et al., 2004; Flett et al, 2014; Frost et al., 1995; Stoeber, et al., 2008; Stoeber et al., 2014).

These results support and add to the literature in several ways. First, they support the idea of perfectionism as a multidimensional construct. In the field of psychology, the idea of perfectionism being multidimensional is relatively new. First being posited that there is a "normal" perfectionism as well as "neurotic" perfectionism (Hamachek, 1978). This idea of the multidimensionality of perfectionism was furthered by the Frost model and the Flett and Hewitt model, which suggested that some dimensions are more associated with pathology (Frost et al., 1990; Flett & Hewitt, 1991). In this way, this study adds to the literature in that there is a difference in perfectionist types.

The results are also in keeping with the Slaney model that posits that not only is perfectionism multidimensional, but that one dimension might be associated with psychological wellbeing (Slaney, et al., 2001). With this study demonstrating adaptive perfectionists using emotion regulation strategies that are associated with positive mental health outcomes (Aldao et al., 2010; John & Gross, 2004), we see one way in which adaptive perfectionists are responding to distress in a healthier way than maladaptive perfectionists.

This study also supports the research that one of the factors delineating perfectionist types is in cognitions relating to affect. Prior survey studies have found that maladaptive perfectionists score higher in rumination than adaptive perfectionists (Flett et al., 2002; O'Connor et al., 2007) which is supported in this study. Furthermore, a survey study found that maladaptive perfectionists scored higher in rumination and lower in reappraisal than adaptive perfectionists, which was also supported in this study (Rudolph et al., 2007).

What this study has added to the literature, with its experimental design, is evidence of the differing use of emotion regulation strategies immediately after failure, between the two groups of perfectionists. And, that, on a whole, immediately after failure, maladaptive perfectionists are using a variety of emotion regulation strategies associated with negative mental health outcomes (Aldao et al., 2010).

Negative Affect and Emotion Regulation Strategy Choice

This study also hypothesized that maladaptive and adaptive perfectionists would have differences in the negative emotions experienced by their failure, that maladaptive perfectionists would experience a greater increase in negative affect than adaptive perfectionists, and that these differences would mediate the relationship to regulation strategy choice. However, this hypothesis was not supported by the study, as perfectionism type was not associated with differences in negative affect change as there was no significant difference between the increase of negative affect between the two types of perfectionists.

This runs contrary to findings from past studies which also used manipulated failure tasks and then measured the resultant negative affect. These studies have found

that after a perceived failure, individuals with high scores in maladaptive perfection subscales experienced greater negative mood, lowered confidence, feelings of shame, and a sense of needing to have performed better (Flett et al, 2014; Frost et al., 1995; Stoeber, et al., 2008; Stoeber et al., 2014). From these studies it was expected that participants in this project would have a similar response in increased negative affect after the failure task. This did not turn out to be the case. Perhaps the nature of an online task lowered the stakes to the extent that maladaptive perfectionists were not as emotionally impacted as they would be in either a real-world failure, or a failure experienced in person. The anonymity of sitting in front of a screen and learning of their failure may have reduced the emotional impact.

However, one study, similarly, did not have this expected affect change response as well. That study, using a manipulated failure task, found that it was, in fact, the *adaptive* perfectionists who experienced greater negative affect after a failure than the maladaptive perfectionists (Besser et al., 2004). The unexpected results regarding increased negative affect after failure from that study as well as this study, further indicates the potential challenges of labeling certain dimensions of perfectionism as being simply either adaptive or maladaptive. It also suggests, that perhaps there is not so much a difference in the negative emotion felt about the perceived failure between the two groups as expected, but the difference is the adaptive perfectionists are responding to that negative emotion, and regulating it, in a more adaptive way than maladaptive perfectionists.

Self-Esteem, Mindfulness, and their Influences on Emotion Regulation

Strategy Choice

In this study a model was hypothesized that maladaptive perfectionists experience heightened negative affect in response to their perceived deficiencies, and that this negative affect is maintained, or even heightened, by the use of emotion regulation strategies associated with psychological distress. It was proposed that both self-esteem and mindfulness contribute to this model. This hypothesized model was not supported by the study.

The first stage of this model proposed that self-esteem would moderate the relationship between perfectionism type and change in negative affect. This did not turn out to be the case, as regardless of high or low self-esteem, the relationship between perfectionism type and negative affect change was the same, with both groups experiencing similar increases in negative affect. However, as expected from the literature (Ashby & Rice, 2002), maladaptive perfectionism was negatively associated with high self-esteem.

Therefore, in the case of this study, self-esteem did not influence the model, or the change in negative affect after failure. Regardless of self-esteem level, participants were experiencing similar changes in affect. This is contrary to two other studies using the same failure manipulation and affect measure, which found that people with low self-esteem had significantly greater changes in affect (Brown & Dutton, 1995; Brown & Marshall, 2001).

Interestingly, one of those studies (Brown & Dutton, 1995) suggested what might be at play here: it states that while it is assumed people with low self-esteem have increased negative reactions to failure, the research on this has been inconsistent. It suggests that the personal relevance of the task is what determines how significant the

change of affect will be between the two self-esteem groups (Brown & Dutton, 1995). Therefore, while using the same instruments of that study in this one, the difference is possibly in how those tools were applied. In these previous studies, they were done in person, with a test administrator. Perhaps, by doing this online, anonymously, and not in the presence of someone else, it decreased the feelings of self-relevance about the task, and the fear of judgement of another, therefore leading to less difference in affect change.

This also makes sense in the perfectionism research that suggests that a social dimension helps determine maladaptive perfectionism, that one of the issues maladaptive perfectionists have is an excessive concern for the way their failures appear to others (Flett & Hewitt, 1991). It was this study's hope to anticipate that by giving participants false scores on how others performed in the task, scores they could not realistically reach, and therefore add a social component. Perhaps that attempt was not adequate enough to address the social aspect of perfectionism, leading to no real difference in emotional response between the two groups.

The second part of the model predicted that mindfulness would moderate the relationship between negative affect change and emotion regulation strategy choice, and, was similarly not supported in this study as, regardless of high or low mindfulness, the relationship between negative affect change and emotion regulation strategy choice was the same. Again, as expected from the literature, adaptive perfectionists were associated with higher mindfulness than maladaptive perfectionists (Argus & Thompson, 2008; Flett et al., 2020; Short & Mazmanian, 2013).

It was the idea of this study that aspects of mindfulness, such as emotional awareness, acceptance, and being in the present and not ruminating on the past, would

influence emotion regulation strategy choice. It is that last facet of mindfulness—being in the “here and now,” and not ruminating on the past—that possibly contributed to mindfulness not playing a role in the model.

This study aimed to examine the emotional cognitions of perfectionists as they failed, in the moment. Prior research has shown that it is this not living in the present moment, in the “here and now,” which is associated with low mindfulness, that contributes to negative psychological outcomes (Brown & Ryan, 200; Short & Mazmanian, 2013). By this study’s design, regardless of levels of mindfulness, both perfectionist groups were very much in “the here and now” while participating in the study. Perhaps, due to the immediacy of the design, regardless of mindfulness levels, this study was unable to capture the effects of not living in the present of participants low in mindfulness, negating any change we might have seen in emotion regulation strategy choice.

Taken all together, the results of this study point away from the proposed model of maladaptive perfectionists experiencing greater negative affect after failure, and choosing maladaptive emotion regulation strategies, with self-esteem and mindfulness playing a role. That said, however, the study did in fact find that there is a difference between emotion regulation strategies employed by both perfectionism groups.

Implications of Findings

Theoretical Implications

At its base, the assumption of this study was that perfectionism is multidimensional: that there are perfectionists whose perfectionism is maladaptive, and those whose perfectionism is adaptive. It was first posited that there is a “neurotic”

perfectionism, and a normal “perfectionism” (Hamachek,1978). From there, the literature has expanded on that idea, with a multidimensional view of perfectionism, and that there are dimensions of perfectionism that are adaptive, and others that can be considered maladaptive (Flett & Hewitt, 1991; Frost et al., 1990; Slaney, et al., 2001). This study supported that concept in finding that there is a difference in the emotion regulation strategies the two groups employ when they are faced with their perceived deficiencies after experiencing failure.

Furthermore, this supports the idea that one type of perfectionism is, indeed, more maladaptive than another. It has been theorized and shown in the literature that maladaptive perfectionism is associated with many negative mental health outcomes: mood disorders, personality disorders, low self-esteem, eating disorders, and suicidality (Besser et al., 2004; Dunkley et al., 2003; Dunkley et al., 2012; Flett & Hewitt, 1991; Malivoire et al., 2019; Molner et al., 2006). The results of this study demonstrate one facet of maladaptive perfectionism that contributes to these negative outcomes: the use of maladaptive emotion regulation strategies when confronted with perceived failure. The emotion regulation strategies used by maladaptive perfectionists in this study have been shown by research to be associated with negative outcomes and pathology (Aldao et al., 2010; John, & Gross, 2004). Whereas, conversely, adaptive perfectionists are using strategies after their failures that are most associated with psychological benefits and well-being (Aldao et al., 2010; John, & Gross, 2004).

This study, by demonstrating a difference in the emotion regulation strategies selected between the two groups, furthers the literature and the concept that there are two types of perfectionists, adaptive, and maladaptive, and that emotion regulation strategy

choices are one of the areas where we can see that difference. The Frost model of multidimensional perfectionism pointed to excessive concerns over mistakes being of particular importance in maladaptive perfectionism (Frost et al., 1990). The Flett and Hewitt model (Flett & Hewitt, 1991) pointed to socially prescribed perfectionism as being particularly problematic. For the Slaney model (Slaney et al., 2001) it was the discrepancy for the individual of where they feel they are versus where they should be. This project suggests that another area of difference between the two groups is the cognitive strategies employed to regulate affect.

For maladaptive perfectionists, it is likely that the selection of these maladaptive strategies contribute to their distress and psychological difficulties in two ways: they are not repairing the resultant negative affect of their failures in adaptive ways, and, they are also likely using these strategies more readily than more adaptive perfectionists. Overall, this paints the picture that the emotion regulation strategy choices of maladaptive perfectionists are contributing to the picture of pathology and poor mental health outcomes of this group.

This study also contributes to the literature regarding cognitions of emotion regulation. Prior research has established the relationship between maladaptive emotion regulation strategies and negative mental health outcomes (Aldao & Nolen-Hoeksema, 2011; Aldao et al., 2010; Gross, & Jazaieri, 2014; John, & Gross, 2004; Millgram et al., 2015). This study now suggests that another negative association of maladaptive emotion regulation strategy use is with maladaptive perfectionism.

Clinical Implications

This study demonstrated that maladaptive perfectionists are given to using emotion regulation strategies that are associated with increased negative affect and pathology. Therefore, a treatment approach focusing on emotions and emotion regulation should be beneficial. Treatments targeting emotion regulation would likely be recommended. Cognitive Behavioral Therapy (CBT) with an emphasis on the use of emotion regulation strategies such as reappraisal, acceptance and problem solving would likely be effective. Furthermore, CBT that is focused on drawing awareness to the more maladaptive strategies, such as rumination and self-criticism would be recommended. Prior literature has demonstrated that individuals can be trained to effectively use adaptive emotion regulation strategies over maladaptive ones (Ehring, Tuschen-Caffier, Schulle, Fischer, & Gross, 2010). By helping maladaptive perfectionists address how they are responding emotionally to their disappointments, it would likely be a helpful step in improving their day-to-day affect and general mental health.

Another recommended treatment would be Dialectical Behavior Therapy (DBT). One of DBT's core focuses is on emotion regulation, offering tools to better regulate emotion, especially during times of distress. It also offers training and tips to improve emotional awareness, distress tolerance, and ways to counteract rigid, black and white thinking (Koerner, 2012; Linehan, 1993); all things likely of benefit in the treatment of maladaptive perfectionists. Furthermore, mindfulness training and practice is a component of DBT (Koerner, 2012; Linehan, 1993), with its emphasis on acceptance, emotional awareness, and focus on the present.

Despite not moderating the relationship between perfectionism and emotion regulation strategy choice in this study, mindfulness training would likely be a helpful

treatment aspect in maladaptive perfectionism. Prior research has shown that mindfulness training has been effective in treating individuals who experience feelings of discrepancy between themselves and their ideal selves (Crane et al., 2008), a key component of maladaptive perfectionism (Slaney et al., 2001).

Psychodynamic therapy could also be recommended. Therapy in this domain might be able to address the more deeply rooted aspects of perfectionism that result in negative affect (Flett, et al., 2017). Several theories of perfectionism consider early developmental issues to be a key source leading to maladaptive perfectionism, developmental issues which psychodynamic therapy might be successful in addressing. Horney considered perfectionism to be the result of early childhood experiences in general (Horney, 1950). And other theorists have felt that maladaptive perfectionism was the result of early parental failures, namely parents being withholding of approval, or inconsistent in providing it (Hamachek, 1978). Frost's model also considers parental failures to be a primary culprit behind maladaptive perfectionism. This model proposes that problems arise as a result of households where the child feels that love and approval are conditional on performance, leading the child to strive relentlessly for perfection (Frost et al., 1990).

These early developmental issues could be addressed by psychodynamic therapy. Research has supported use of this modality, as studies have also shown that short-term group psychodynamic therapy targeting perfectionism have been effective in addressing some of the cognitions, such as ruminations, that lead to distress (Hewitt et al., 2015).

And finally, psychoeducation about perfectionism would also likely be effective. Educating those trying to manage maladaptive perfectionism that there are positive and

negative dimensions of their perfectionism would be recommended. Fostering knowledge that a key element of what makes perfectionism maladaptive is rigid goals, overly high personal standards, and perceived social pressure, would raise awareness in what to look out for when faced with distressing moments and in choosing which tasks to engage in. And then educating individuals that it is in how they respond to perfectionistic pressures emotionally that is playing a role in their distress, so that they might be more aware of their emotional states.

Limitations

The majority of studies on perfectionism have used university samples and it was the hope of this study to broaden the literature by using participants from outside of the university setting. Therefore, a general sample of English-speaking individuals in the United States was used using a crowd sourced website, Prolific.

This study used the APS (Slaney et al., 2001) to determine if participants were non-perfectionists, adaptive perfectionists, or maladaptive perfectionists. In previous research with the APS, it was found in university students, that 32% were non-perfectionists, 42% adaptive perfectionists, and 27% were maladaptive perfectionists (Rice & Ashby, 2007). The sample from this study had an unexpected breakout of 61.40% non-perfectionists, 20.00% adaptive perfectionists, and 18.60% maladaptive perfectionists. There were significantly more non-perfectionists in this study's sample than prior research indicated there might be.

There are some possible explanations for this difference. Perhaps the university setting, where the majority of studies of this kind have previously taken place, fosters more perfectionism in the participants than a general population who are not currently in

college. Or, perhaps, there is something about the demographic who uses a crowd-sourced research site, such as Prolific, that scores lower in perfectionism than other populations. Regardless, the sample did not score as expected from previous research.

Another limitation of this study is in one of the measures that was used: the emotion regulation strategy choice measure (Aldao & Nolen-Hoeksema, 2012a; 2012b) which has been used in a number of other emotion regulation strategy studies (e.g., Aldao & Nolen-Hoeksema, 2012a; Aldao & Nolen-Hoeksema, 2012b; Aldao, Jazaieri, Goldin, & Gross, 2014; Dixon-Gordon, Aldao, & De Los Reyes, 2014; Dixon-Gordon, Aldao, & De Los Reyes, 2015; Dixon-Gordon, Fitzpatrick, & Haliczzer, 2021; Haliczzer, Woods, Dixon-Gordon, 2020). In the past, this measure has had internal consistency that was questionable to excellent (.68-.90 for maladaptive strategy, and .62-.78 for adaptive) (Dixon-Gordon et al., 2021). However, in this study, the reliability was different, with an alpha of .521 for one of the items (considered poor reliability). By removing that item (“Allow or accept your feelings”) the reliability increased to an alpha of .691 (considered questionable). Due to this reliability, it can be called into question how accurately the construct, emotion regulation strategy choice, is being measured in this study, and how well this measure is capturing individual emotion regulation strategy choices. However, it has been argued in psychological research that even values below .7 can be expected to occur due to the diversity of the constructs this nature of research involves (Kline, 1999).

This measure had been chosen for its ability to assess various emotion regulation strategies used for a particular event, assess how much each one was used, and the measure’s ability to sort out maladaptive versus adaptive strategy choices (Aldao & Nolen-Hoeksema, 2012a; Aldao & Nolen-Hoeksema, 2012b). However, due to the issues

with reliability, future studies in this area might consider using a measure such as the Cognitive Emotion Regulation Questionnaire instead (CERQ, Garnefski, Kraaij, & Spinhoven, 2001).

Future Directions

This study had hoped to show a model of maladaptive perfectionists using maladaptive emotion regulation strategies, and that this was being influenced by self-esteem and mindfulness. While this study did demonstrate that maladaptive perfectionists are using maladaptive strategies, it did not show that this was influenced by self-esteem and, or, mindfulness. Therefore, while it did demonstrate the use of maladaptive strategies, the *why* of this dynamic remains a question. Future research in this area might explore other constructs that might be at play in the relationship between perfectionism type and emotion regulation strategy choice.

For example, due to the rumination and perseveration on perceived failures, and the resulting negative mood symptoms that entails, it is possible that alexithymia, or other lack of emotional awareness, or intelligence are at play, and therefore worth investigating.

Also worth investigating would be self-efficacy and its role in the emotion regulation of perfectionists. Self-efficacy has been demonstrated to be a key benefit of adaptive perfectionism versus maladaptive (Hewitt et al. 2017, Ganske & Ashby, 2011; Malivoire et al., 2019; Rice & Ashby, 2007) and is perhaps playing a role in emotion regulation.

Interpersonal variables are at play in the role of maladaptive versus adaptive perfectionism as well. With maladaptive perfectionism being associated with concerns of

how one appears to others, how one measures up in comparison to others, and the sense that unrealistic standards are being imposed on them by others. Therefore, future studies of perfectionism and emotion regulation might consider social and interpersonal variables as well.

Another area warranting further research is the emotional response experienced by the different perfectionist types during and after failure. Most research points to this emotional response as being more negative for maladaptive perfectionists (Flett et al., 2014; Frost et al., 1995; Stoeber, et al., 2008; Stoeber et al., 2014). However, one study found results contrary to this, with adaptive perfectionists experiencing *more* negative affect after failure than maladaptive perfectionists (Besser et al., 2004). This study had similar unexpected results, with there being no difference in the negative emotion experienced by perfectionist type after failure. Due to these unexpected, and at times contrary, results in this area of perfectionism research, it clearly warrants more investigation.

This study examined the differences in emotional response among perfectionists in a failure condition. Investigating the difference between the two groups in success conditions would also warrant investigation. It has been argued that one of the differences between maladaptive and adaptive perfectionists is not just in how they handle failure, but also in how they handle success. It has been proposed that maladaptive perfectionists never find pleasure in their efforts, and have difficulty in taking pride in their strivings regardless of the results (Hamachek, 1978). One study did find that after a successful task, compared to adaptive perfectionists, maladaptive perfectionists did not report feelings of pride in their success. It would be interesting to see if there are any underlying

emotional cognitions behind this. For example, perhaps maladaptive perfectionists are also regulating positive emotions in a similarly maladaptive way, such as using suppression to down regulate positive emotions that would result after a success.

Conclusion

After perfectionism began to be considered as a multidimensional construct, having negative mental health outcomes for some and positive outcomes for others, research has tried to parcel out the reasons for these differences. This study continued in that goal. This study aimed to investigate the differences in emotion regulation strategy choices between the two types of perfectionism and determine if maladaptive perfectionists were selecting strategy choices that are associated with pathology and other negative mental health outcomes in comparison to adaptive perfectionists. This study also hoped to find that self-esteem and mindfulness were contributing to the strategy choices selected by both groups.

This study did find that the two perfectionist groups did, in fact, use different emotion regulation strategies when confronted with perceived failure, with maladaptive perfectionists selecting strategy choices that are similarly considered maladaptive. This serves as further evidence in the perfectionism literature for a multidimensional view of perfectionism, with one perfectionist type demonstrating more maladaptive aspects with the use of maladaptive emotion regulation strategies. This study, however, did not manage to help explain what might be behind these emotion regulation choices, as the proposed concept of self-esteem and mindfulness being influences on the choice proving not to be the case during this experiment.

The results of this study point to areas that warrant future investigation in perfectionism and emotion regulation. Though this study did not demonstrate that self-esteem and mindfulness contribute to a model of emotion regulation strategy choice in perfectionism, there are likely other variables to consider that contribute to this proposed model. Furthermore, this study had unexpected results as to the emotional reaction after failure between the two perfectionist groups, as there was no difference in increase of negative affect after failure between adaptive and maladaptive perfectionists, going against what was expected from prior research. This occurred in another study in this area (Besser et al., 2004), suggesting an avenue for further investigation.

Continued investigation in these areas, along with this study, will help further the literature and shed light on what makes one type of perfectionist have more negative mental health consequences than another, and therefore lead to not only better understanding of perfectionism, but also a better framework to address the issue of maladaptive perfectionism in mental health treatment as well.

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